DOCUMENT RESUME

ED 450 452 EA 030 841

TITLE	Investing in Education: Analysis of the 1999 World Education Indicators. Education and Skills.
INSTITUTION	Organisation for Economic Cooperation and Development, Paris (France).; United Nations Educational, Scientific, and Cultural Organization, Bangkok (Thailand).
SPONS AGENCY	World Bank, Washington, DC.
ISBN	ISBN-92-64-17183-5
PUB DATE	2000-00-00
NOTE	187p.
AVAILABLE FROM	Full text: http://electrade.gfi.fr/cgi-bin/OECDBookShop.storefront/.
PUB TYPE	Information Analyses (070) -- Numerical/Quantitative Data (110)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Access to Education; *Comparative Analysis; *Cross Cultural Studies; Data Analysis; Data Interpretation; *Educational Discrimination; Educational Economics; Educational Finance; Educational Opportunities; Educational Practices; Educational Research; *Educational Resources; Elementary Secondary Education; Enrollment; Equal Education; Foreign Countries; Higher Education; *Statistical Data; Tables (Data); Teacher Qualifications; *Teacher Salaries
IDENTIFIERS	*International Standard Classification of Education

ABSTRACT

This Organisation for Economic Cooperation and Development report documents the growing demand for learning around the world. A quantitative description of the functioning of education systems allows for international comparisons and the identification of the strengths and weaknesses of various approaches to providing quality education. Chapter 1, "Country Profiles," surveys government priorities and recent trends in educational participation, attainment, policy design, enrollment, and funding indicators for Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Jordan, Malaysia, Paraguay, Philippines, the Russian Federation, Sri Lanka, Thailand, Uruguay, and Zimbabwe. Chapter 2, "Managing the Growth of Educational Participation," explores patterns in data on school demand, participation, demographic changes, gender and income disparities, progression, completion, and school types. Chapter 3, "Mobilizing Resources and Encouraging Efficiency," looks beyond aggregate data to examine ways in which countries support particular types, or levels, of education, encourage student participation, provide capital investments, and achieve educational improvements as measured by teachers' salaries, qualifications, yearly instructional hours, and student-teacher ratios. Annex A1 provides notes pertaining to coverage and the main sources of data. Annex A2 organizes definitions and notes important for understanding of indicators. Annex A3 provides cross-references between data tables and notes. Annex A4 provides the full set of data. Annex A5 documents allocation of national educational programs, according to the International Standard Classification of Education criteria. (TEJ)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 450 452

Investing in Education

ANALYSIS OF THE 1999 WORLD EDUCATION INDICATORS

EDUCATION AND SKILLS

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

S. Edam

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

OECD

EA 030841

BEST COPY AVAILABLE

2

INVESTING IN EDUCATION

ANALYSIS OF THE 1999 WORLD EDUCATION INDICATORS

UNESCO/OECD World Education Indicators Programme

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996) and Korea (12th December 1996). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

Photo credit: PhotoLink

© OECD 2000
Permission to reproduce a portion of this work for non-commercial purposes or classroom use should be obtained through the Centre français d'exploitation du droit de copie (CFC), 20, rue des Grands-Augustins, 75006 Paris, France, Tel. (33-1) 44 07 47 70, Fax (33-1) 46 34 67 19, for every country except the United States. In the United States permission should be obtained through the Copyright Clearance Center, Customer Service, (508)750-8400, 222 Rosewood Drive, Danvers, MA 01923 USA, or CCC Online: http://www.copyright.com/. All other applications for permission to reproduce or translate all or part of this book should be made to OECD Publications, 2, rue André-Pascal, 75775 Paris Cedex 16, France.

TABLE OF CONTENTS

■ Foreword 5

■ Introduction 9

■ Reader's guide 18

■ Chapter 1: COUNTRY PROFILES 21

Argentina 22
Brazil 24
Chile 26
China 28
Egypt 30
India 32
Indonesia 34
Jordan 36
Malaysia 38
Paraguay 40
Philippines 42
Russian Federation 44
Sri Lanka 46
Thailand 48
Uruguay 50
Zimbabwe 52

■ Chapter 2: MANAGING THE GROWTH OF EDUCATIONAL PARTICIPATION 55

Introduction 57
Patterns of demand and the potential to respond 58
• Rising participation 62
• Demographic patterns 66
• Challenges of addressing disparities related to gender and income 71
• Potential to respond 78
Progression and completion 80
• Grade repetition 81
• Entry and completion 84
• Unsuccessful completion 86
• Economic benefits of completion 88
School types and participation 91
• Public and private schooling 91
• Secondary and tertiary programme options 94
Conclusion 96

■ Chapter 3: MOBILISING RESOURCES AND ENCOURAGING EFFICIENCY 99

Introduction 101
Investment in education 102
• Patterns of spending 102
• Priorities within education budgets 110
Trade-offs and investment choices in the classroom 118
• Teachers' salaries 119
• Teachers' qualifications 123
• School conditions: hours of instruction and class size 124
• Possible trade-offs in educational investments 126
Conclusion 130

■ Annex 133
A1 General notes 134
A2 Definitions, methods and technical notes 135
A3 Cross-references between data tables and notes 148
A4 Data tables 149
A5a International Standard Classification of Education (ISCED) 172
A5b Allocation of national education programmes according to ISCED 174

FOREWORD

The 1990s have witnessed growing demand for learning throughout the world. Compelling incentives for individuals, economies and societies to raise the level of education have driven increased participation in a widening range of learning activities by people of all ages, from earliest childhood to advanced adulthood. The challenge, in this era of expanding, deepening and diversifying demand for learning over a lifetime, is how best to meet the volume of demand while ensuring that the nature and types of learning respond effectively to needs.

A quantitative description of the functioning of education systems can allow countries to see themselves in the light of other countries' performance. Through international comparisons, countries may be enabled to recognise strengths and weaknesses in their own education systems and to assess to what extent variations in educational experiences are unique or mirror differences observed elsewhere. In searching for effective education policies that enhance individuals' social and economic prospects, provide incentives for greater efficiency in schooling and help to mobilise resources in order to meet rising demands for education, governments are paying increasing attention to international comparative policy analysis.

This attention has resulted in a major effort by the OECD to strengthen the collection and reporting of comparative statistics and indicators in the field of education. Over the past twelve years, the OECD has developed and published a broad range of comparative indicators that provide insight into the functioning of education systems – reflecting both the resources invested in education and the returns. These indicators have become a unique knowledge base, underpinning public policies which attempt to improve access to education in order to make lifelong learning a reality for all, to raise the quality of educational opportunities, and to ensure effective use of resources and fair distribution of learning opportunities.

The growing demand throughout the world for a wide range of timely and reliable statistics that are relevant to policy has also resulted in the creation of the UNESCO Institute for Statistics, which was established in 1999.

Building on the OECD indicators programme, eleven countries, together with UNESCO and the OECD and with financial support from the World Bank, launched the World Education Indicators (WEI) pilot programme in 1997. These countries were Argentina, Brazil, Chile, China, India, Indonesia, Jordan, Malaysia, the Philippines, the Russian Federation and Thailand. They first met in September 1997 in order to:

- explore the OECD indicators methodology;
- establish a mechanism whereby participating countries could agree on how to make common policy concerns amenable to comparative quantitative assessment;
- seek agreement on a small but critical mass of indicators that genuinely indicate educational performance relative to policy objectives and measure the current state of education in an internationally valid, efficient and timely manner;
- review methods and data collection instruments in order to develop these indicators; and
- determine the directions for further developmental work and analysis beyond the initial set of indicators.

Since then, participating countries have contributed in many ways to conceptual and developmental work, have applied the data collection instruments and methodology at the national level in collaboration with the OECD and UNESCO, have co-operated in national, regional and international meetings of experts, and have worked jointly on the development of the indicators. Egypt, Morocco, Paraguay, Sri Lanka, Tunisia, Uruguay and Zimbabwe joined the programme during its second year.

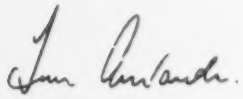
This report provides an initial analysis of the data collected through this programme, bringing together data from the countries participating in the WEI programme with comparable data from OECD countries. *Chapter 1* provides a brief profile for each country that highlights central government priorities in the development of education policy, identifies what the government perceives to be the major challenges facing the education system over the next decade, and explains reform efforts under way to meet these challenges. These profiles, which were contributed by participating countries, also provide the background for interpreting the international comparisons presented subsequently. *Chapters 2* and *3* analyse, within an international comparative framework, how countries have responded to rising demands for education and how effective they have been in mobilising the necessary resources. Chapter 2 starts with an examination of patterns of demand, then looks at progression and completion, and finally examines patterns of participation by type of school and programme. Chapter 3 analyses aggregate spending, examines priorities within education budgets (such as spending by level of education, private provision and services targeted to specific target populations), and finally looks at spending choices within the classroom (teachers' salaries, teachers' qualifications, hours of instruction and class size). The *Annex* provides the indicators underlying the analysis, the classification of national education programmes used for the comparisons and other relevant technical information.

This is the first report from the WEI programme. The indicators presented should not be considered final but have been, and continue to be, subject to a process of constant development, consolidation and refinement. Furthermore, while it has been possible to provide for comparisons in educational enrolment and spending patterns, comparative information on the quality of educational outcomes in WEI countries is only beginning to emerge. New comparative indicators will be needed in a wider range of educational domains in order to reflect the continuing shift in governmental and public concern, away from control over inputs and content towards a focus on educational outcomes.

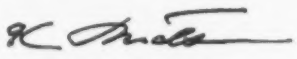
Since the early 1990s, the OECD has set out to identify and measure a range of such outcomes, initially through the International Adult Literacy Surveys conducted by the OECD and Statistics Canada in 1994-97. Through the Programme for International Student Assessment (PISA), OECD countries and several WEI countries are now beginning to develop an instrument to compare the quality of outcomes produced by school systems, rather than just the numbers of people processed (educational participation) or internal effectiveness (curriculum-based tests). PISA, which adopts a broad approach to assessment, rather than restricting itself to specific curricula or subject-matter knowledge, offers an instrument that focuses on the interest of both the public and governments in ensuring that young people have and are able to use the knowledge and skills needed in today's societies and economies.

International comparative assessments of achievement already figure prominently in national policy debates and in educational practice in WEI and OECD countries alike. To the extent that they can now be successfully integrated into the WEI programme during its next phase, they will be able to provide a new basis for policy dialogue and for collaboration in defining and operationalising

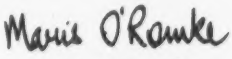
educational goals – in ways that reflect judgements about the skills that are relevant to adult life. They will provide an opportunity for WEI countries to identify and assess gaps in national curricula, and provide information for benchmarking, the setting of standards and evaluation. They will also convey insights into the range of factors which contribute to the development of knowledge and skills, and into the similarities and differences between the ways in which these factors operate in the various countries. Ultimately, they can help countries to bring about improvements in schooling and better preparation for young people as they enter an adult life of rapid change and increasing global interdependence.



Thomas J. Alexander
Director for Education, Employment, Labour and Social Affairs, OECD



Koïchiro Matsuura
Director-General, UNESCO



Maris O'Rourke
Director, Education Sector, World Bank

INTRODUCTION

■ PROGRESS IN MEETING RISING DEMANDS FOR EDUCATION

Changing labour market and social conditions are placing greater weight on the knowledge and skills of individuals.

As countries restructure their economies and societies in response to technological, social and economic changes, they are giving greater weight to the knowledge and skills embodied in individuals. The value attached to such human attributes, together with a continued rise in income and wealth, are driving increased demand for learning in its broadest sense. As a result, there is a natural tendency for individuals to seek higher levels of educational attainment, and for governments to encourage them to do so.

Most WEI countries have achieved universal primary education and are closing the gaps at the lower secondary level...

In all countries participating in the UNESCO/OECD World Education Indicators programme (WEI), younger adults have completed more years of education than their older peers because they were educated at a time when systems were designed for the many rather than the few. Most WEI countries have effectively achieved universal primary education and, with the exceptions of India, Indonesia and Paraguay, the completion of lower secondary education has today become a reality for the majority of young people of school age in WEI countries. In Chile, China, Malaysia, the Philippines and Thailand, more than three-quarters of the typical age cohort have completed lower secondary education.

...and the minority of those completing upper secondary and tertiary education is growing rapidly in many WEI countries...

As changing labour market and social conditions place greater emphasis on the knowledge and skills embodied in individuals, secondary and tertiary-level qualifications, once designed for an elite minority of the population, are becoming more common. In 9 out of 12 WEI countries, the proportion of upper secondary graduates among 25-34 year-olds is at least twice as high than among 55-64 year-olds, indicating substantial improvements in access to upper secondary programmes. Progress has, however, been uneven across WEI countries. In Chile and Malaysia, half or more of 25-34 year-olds have obtained an upper secondary qualification while only 9 and 24 per cent of 55-64 year-olds, respectively, had done so. By contrast, levels of upper secondary attainment among younger adults in Zimbabwe remain, at 16 per cent, similar to those among older adults (12 per cent).

...but while upper secondary attainment is converging among OECD countries, the attainment gap between WEI countries is likely to widen further if current patterns of participation remain unchanged.

While levels of upper secondary attainment are now tending to converge in OECD countries, the attainment gaps among WEI countries are likely to widen further if current patterns of participation remain unchanged. For example, Chile, Jordan and Malaysia show comparatively high rates of upper secondary attainment as well as large gains over successive generations, while China, India and Zimbabwe lag behind, both in terms of overall upper secondary attainment levels and in terms of progress from the older to the younger generations.

A variety of economic, demographic and social factors contribute to the larger disparities in levels of educational attainment in WEI countries.

A variety of economic, demographic and social factors contribute to the larger disparities in levels of educational attainment among WEI countries. Naturally, WEI countries with higher levels of national income, such as Argentina, Chile, Malaysia and Uruguay, have an advantage in achieving high levels of educational participation and attainment, and the report shows a positive relationship between GDP per capita and expected years of schooling. However, the relationship is not strictly linear, suggesting that variation in national income can only partially explain the differences between countries in the educational progress that has been accomplished.

Growing diversity in educational provision has been one of the policy responses to increasing variety in the demand for skills.

The challenge, in this era of expanding, deepening and diversifying demand for learning over the lifetime, is how best to meet the volume of demand while ensuring that the nature and types of learning respond effectively to needs. Effective policies are needed to improve access to education in order to make lifelong learning a reality for all, to improve the quality of educational opportunities, and to ensure effective use of resources and fair distribution of learning opportunities. Growing diversity in educational provision has been one of the policy responses to increasing variety in the demand for skills. Most WEI countries now provide a range of programme types, at least at the upper secondary level, including general, pre-vocational and vocational programmes. The latter are, however, less common in WEI countries than in the OECD where, in more than half of the countries, graduates from vocational and technical programmes combining learning at school and at the workplace tend to outnumber graduates from general upper secondary programmes. In addition, private schools provide alternative teaching methods and curricula in many WEI countries, and help to serve the diverse needs, interests and abilities of the total student population.

In addition to rising rates of participation and attainment, a rise in the number of children and young adults in the population – the "client base" for education – can also signal increases in demand for education.

Many WEI countries will have a window of opportunity caused by demographic transition that will allow a shift in policy from expanding enrolments to improving the quality of basic education.

However, many WEI countries will experience a window of opportunity over the coming decades because of a demographic shift that is already having an impact on the size of cohorts of primary-school age. Since the fertility rate is falling in most WEI countries, the proportion of people of working age is rising faster than the number of primary-age children. The decline in fertility rates also suggests that more adult women will be working. This, together with the change in the age profile of the population, will imply fewer students per worker, making it easier to finance a better educational system. But while this trend will persist for several decades, it will eventually be offset by a rise in the proportion of elderly people relative to the working-age population in question. Nonetheless, in many WEI countries, at least over the next two decades, the declining ratio of children to workers will have greater financial significance than the rising ratio of retired people to workers.

While stabilising child populations and high levels of enrolment at the primary level of education might suggest that policy attention can now shift from expansion of primary enrolments to improving the quality of primary education, the situation, in most WEI countries, will still present a different picture at secondary and tertiary levels. In more than half of WEI countries, the age group 15-19 years will increase in size by between 16 and 31 per cent over the period 1997-2007. Strategies for investing in education will need to adapt to demographic patterns. In the light of both continuing wide attainment gaps at the higher levels of education and growing demographic pressure, WEI countries will need to give attention to providing sufficient qualified educational personnel and an appropriate infrastructure for secondary education.

Over the next decade, the greatest increase in the numbers of potential students will occur at the upper secondary and tertiary levels.

■ MOBILISING RESOURCES FOR EDUCATION AND ENCOURAGING EFFICIENCY

Countries unable to match increases in participation with increases in resources will be faced with difficult choices over the adjustment of the educational services provided. With increased participation in education drawing on new client groups, and a wider range of choices concerning what, when, how and where to learn, and with added demographic pressure, at least at higher levels of education, existing financing mechanisms may not prove to be adequate. In particular, public money alone may not suffice to pay both for the expansion of education systems and for improvements in educational quality. WEI governments may need to forge new partnerships with the providers and beneficiaries of education in order to mobilise the necessary resources, to encourage efficiency and to introduce flexibility in order to permit everyone to pursue the pathways and learning opportunities which best meet their needs.

Improving access to education while maintaining and raising the quality of educational provision and outcomes poses a challenge to all countries.

New policies may need to be designed, allowing the different actors and stakeholders to participate more fully and to share the costs and benefits of education more equitably. Non-public institutions, such as private businesses, can pay for the training of existing workers in the educational institutions or can provide resources to these institutions either through partnership arrangements or through more general support for the education system. Students and their families may also be asked to spend more on higher and further education.

New policies need to be designed which allow the various actors and stakeholders to participate more fully and to share the costs and benefits of education more equitably.

No single sector can have a monopoly on investing in education as the investments made by individuals, families, enterprises and public authorities all help to raise the stock of human capital. Investment by governments may be most appropriate where public benefits are likely to be high, while individuals and enterprises need to take substantial responsibility for learning that yield high private returns. Different learning experiences may be mutually reinforcing, and many bring a combination of public and private gains. Partnerships are needed that match shared interests with shared investments. In areas such as tertiary education, in which some WEI governments invest a

disproportionately large share of their educational resources and where large private gains accrue, cost-sharing may need to be adjusted. In Argentina, Brazil and Malaysia, for example, expenditure per student at the tertiary level is about ten times higher than at the primary level while the relative earnings of persons with tertiary qualifications are about three times those for persons with upper secondary qualifications. If a greater private contribution to funding is demanded, however, due account will need to be taken of existing private costs and public benefits (such as spin-off social gains) that are not yet accounted for in the WEI indicators. Conversely, public gains arising from increased tax revenues and the spin-off effects on economic growth need to be recognised in relation to investments, such as enterprise-based training, that are currently financed primarily by the private sector.

Some WEI countries have introduced market-based incentives, bringing to bear the forces of competition in order to enhance school and teacher performance.

In order to encourage the efficiency of school systems, some WEI countries have also introduced market-based incentives into education systems, bringing to bear the forces of competition in order to enhance school and teacher performance, to enable parents to choose their children's school, and to encourage the development of innovative and effective educational programmes. For example, Chile provides merit awards to teachers on the basis of the added value which their school creates in terms of aggregate student achievement; has established a voucher system which provides government-dependent private schools with the same financial resources as public schools; and has implemented a comprehensive standardised testing system that allows key learning outcomes to be assessed regularly at different grade levels.

■ LEARNING BEYOND INITIAL EDUCATION

In many WEI countries, generational differences in attainment will remain a concern for a long time.

Important as the expansion of access to initial education is, it has largely reached only younger people, and the report shows that wide disparities have opened up in many WEI countries between highly qualified younger generations and less qualified older people. These intergenerational disparities, which already tend to be much larger than those in OECD countries, are likely to continue to widen as access to higher levels of initial education improves while opportunities for older generations to acquire formal qualifications remain scarce.

Extending opportunities for continuing education and training beyond initial schooling may be an effective means of enhancing skill levels in the workforce and decreasing disparities in attainment levels.

This situation illustrates the difficulty of raising educational attainment and the qualifications of the labour force solely by increasing participation in schooling among today's youths. Strategies for enhancing human capital formation cannot continue by focusing exclusively on expanding provision and participation in initial education, but should start before and finish long after. Early childhood education and intervention programmes in primary school may be important elements in bringing about more equal opportunities in foundation learning and assisting children at risk. Similarly, in order to meet rising skill demands and to provide adequate job prospects for the entire labour force, an effective expansion of adult education, including continuing education and training in the workplace, will be of growing importance in WEI countries.

Learning pathways that start at school need to be continued throughout adulthood. One way of doing this is to combine on-the-job training and formal study. Where resources are limited, it is important to look at cost-effective options such as part-time study, distance learning and modular programmes adapted to individual learning interests, needs and circumstances. Small amounts of public resources invested in such programmes can often help to attract private investments from employers and individuals. Policy-makers can influence job-related education and training, both by encouraging enterprises to invest in the skills of their workers and by maximising the effectiveness of public labour market training programmes. Clearly, education and training cannot on their own cure unemployment, poverty or other social ills – other ingredients have to be brought to bear, including both labour market and social reforms and macro-economic policy. However, the cost of failing to invest in human capital can be great. It exposes countries to the risk of entrenched unemployment, greater social exclusion, mismatched job skills and wasted economic opportunity.

■ EQUITY IN EDUCATIONAL PROVISION AND OUTCOMES

An important aspect of managing the growth of education systems is ensuring that all sections of the population benefit and that disparities are reduced.

One increasingly important aspect of managing the growth of education systems is to ensure that all parts of the population benefit and that disparities are reduced. Within WEI countries, certain groups have tended to attend school in greater numbers and for longer periods than others, and to gain qualifications at higher levels. Disparities according to gender, income level and area of residence are often present. As overall participation and attainment levels rise, it cannot always be assumed that all groups are benefiting equally or that historical gaps are closing. Even where conditions for all groups have improved, disparities have often become magnified, as those who have traditionally benefited more have also benefited disproportionately from improvements.

Disparities in the income levels of students' families can hinder the equitable distribution of educational opportunities.

Income inequality in WEI countries tends to be far greater than in most OECD countries. This is the result of many factors, including the state of economic and social development and the conditions of productive resources. In the absence of targeted policies and interventions, children from poorer backgrounds will be less able to afford the direct and indirect costs of school attendance, will face greater pressure to leave school early in order to work, and may experience a lower quality of education than students from wealthier backgrounds. This applies, in particular, to WEI countries with high proportions of private schools, such as Argentina, Chile, India and Jordan, where households are expected to bear not only the indirect costs of education but also to contribute significantly to the direct costs of private schools at least at secondary and tertiary levels.

A significant gap between the educational levels of older men and women indicates under-investment in human capital in previous generations...

At the same time, the report illustrates the success of educational policies in combating some sources of inequalities. For example, the historical under-investment in women, evident in low levels of educational attainment among older women is, in most WEI countries, no longer evident among young people. The diminishing gender gap in levels of educational attainment is indicative of improvements in the educational opportunities available to, and utilised, by women.

...but in almost all WEI countries, gender gaps in attainment are closing across successive younger generations – and are sometimes being reversed.

With the exceptions of China, India, Indonesia and Zimbabwe, the gap in upper secondary and tertiary attainment levels between men and women in the age group 25-34 years has essentially been closed, and today's graduation patterns indicate gender parity in educational qualifications in most WEI countries. Improvements in gender equality in both access to education and in participation can be expected to have an impact on economic and social development. As women become more educated, they tend to have fewer children, to participate more in the job market and to seek more education for their children. More education also means better access to those types of employment which offer higher wages and more security.

■ QUALITY OF EDUCATION

Increasing access to education must be paralleled by improvements in the quality and internal efficiency of education systems.

While the provision of sufficient learning opportunities must remain an important objective of education policy in WEI countries, particularly at the higher levels of education, the quality of educational services is equally important. Effective schools require the right combination of talented personnel, adequate facilities and motivated students. There is little question that insufficient spending can compromise the quality of educational services if students are obliged to sit in overcrowded classrooms, to learn from under-qualified teachers, to make do with few and/or outdated materials or to attend schools operating on reduced schedules.

A wide range of unit costs, from less than US$ 200 to more than US$ 1 800, illustrates the potential diversity in the quality of educational provision.

A comparison between education expenditure and the size of the school-age population points to a broader trade-off between expanding access to education and increasing the quality of educational provision. Although the relationship between the financial resources invested in education and educational quality is complex, the wide range of unit costs across WEI countries illustrates the potential diversity in the quality of educational provision. Of the 10 WEI countries for which comparable data are available, public and private expenditure per student on public primary schools ranges from less than US$ 200 in India to more than US$ 1 800 in Chile, even after adjustment for differences between countries in purchasing power parities.

Improving the efficiency and quality of education systems is also related to the nature of investments.

In the absence of comparable indicators on the quality of educational outcomes, this report examines countries' use of education funds by reviewing four measures often linked to educational quality: teachers' salaries, teachers' qualifications, the number of hours of instruction per year, and student-teaching staff ratios.

Countries face varying demands for education and, with limited budgets, must make difficult investment choices.

All of these measures represent investments in education of one sort or another and with limited resources, countries must make choices as to how those resources are deployed in order to optimise the quantity and quality of educational opportunities. Although the WEI data do not permit a comprehensive evaluation of the effectiveness of investment strategies, they do allow participating countries to evaluate their spending choices in the light of choices made by other countries which operate under similar conditions, and to examine the relationships between investment decisions and patterns of participation and completion.

Teachers' salaries affect both the numbers and the quality of those entering the profession...

Schools are being asked to play a key role in helping societies to adapt to social and economic change; they will not be able to meet such challenges unless teachers are at the centre of the process. In the ten WEI countries for which data are available, at least the teachers at the higher levels of education appear to be fairly well paid in relation to GDP per capita.

...and they vary widely, both across WEI countries and, at times, between levels of education.

On the other hand, the statutory starting salary of a teacher in a public primary school in seven out of nine WEI countries is around or less than average GDP per capita: under such circumstances it is probably difficult to attract sufficient qualified personnel into the teaching profession. Supporting teachers with tertiary education qualifications is therefore an investment which some countries cannot make or must make strategically at certain levels. For example, in Zimbabwe, the percentage of primary teachers with a non-university or university-level tertiary qualification is negligible and in Brazil, Egypt and Indonesia it is only between 10 and 26 per cent. Only at the upper secondary level do at least 80 per cent of teachers have a tertiary qualification in the majority of WEI countries.

New instructional technologies have the potential to increase learning without increasing the number of teachers and expenditure per student.

When financial resources are limited, both in absolute terms and in terms of spending per student, it is all the more important to invest resources effectively. New teaching technologies, such as computers and the Internet, have the potential to enhance learning without increasing the number of teachers, and hence expenditure per student. The Malaysian Smart School Pilot Project is one example of how technology can be exploited to improve the teaching learning process.

Ensuring smooth progression through the education system is another policy goal.

As WEI countries seek to increase educational participation and quality, they must also ensure that students progress through the education system smoothly and that they complete higher levels of education, rather than simply entering and remaining enrolled for a given number of years. Progression from grade to grade at the normal time reflects the internal efficiency of the system, and "graduation" often signifies that students have met a certain set of standards, whether stated formally or held as a general belief in the minds of the public.

For some WEI countries, patterns of educational participation signal weaknesses in the internal efficiency of education systems.

Progression is not considered smooth if students have to repeat one or more years of schooling, or if their participation is interrupted for a period of time. In many WEI countries, grade repetition remains a major impediment to the efficiency of schooling. At one extreme, in Brazil, 26 per cent of primary school students and 20 per cent of lower secondary school students repeat grades, artificially adding more than two years to the expected years of primary and lower secondary education for the average student.

Even in countries where grade repetition is an accepted practice, policies are being developed to reduce its frequency.

The potential drawbacks of repetition, which include students' separation from their peers, stigmatisation, and the fact that without changes in teaching method, students may do no better in the repeating year than in the previous year, suggest that a reduction in grade repetition rates must remain an important policy objective, particularly in countries such as Argentina, Brazil, Egypt, Paraguay and Uruguay.

Examples from WEI countries demonstrate that this can be a realistic goal. In the Philippines, where repetition rates are highest in the first grade, one strategy being used is the expansion of early childhood education. Thailand has reduced repetition rates in secondary schools by introducing a system whereby students receive units of credit for individual courses, with repetition only in those courses with which they have difficulty. Many countries also seek to reduce grade repetition through qualitative improvements in teaching and greater attention to students' individual needs. Other countries, prohibit or limit grade repetition. Malaysia and Sri Lanka, for example, follow a policy of automatic promotion. Jordan restricts students to repeating the first, second and third grades once each, and has a five per cent limit on the number of students that can be held back in these grades. China has a target of limiting grade repetition during compulsory education to five per cent of enrolment. To the extent that such policies are combined with differentiated teaching and formative assessment by teachers, they can be effective in addressing the problem of under-achievement.

Unsuccessful completion and dropout remain further impediments to effective education systems.

Similarly, reducing dropout rates must remain a high priority in the education policies of many WEI countries. At both lower and upper secondary levels, the report suggests that in many countries there are large numbers of students who enter upper secondary school but who do not complete their programmes successfully. The rate of upper secondary graduation is less than 80 per cent of entry in six of the eight countries reporting data: Argentina, Brazil, Chile, Indonesia, Paraguay, and Thailand. Even when it is taken into account that differences between current entry and graduation rates may be partly due to growth in enrolments and other statistical factors, there appear to be a large number of dropouts in these countries.

A broad range of policies – systemic, institutional and programmatic – is needed to address the different facets of educational effectiveness.

Early school leavers may drop out of school without finishing a course of study, or they may finish the course but leave without the relevant qualifications. Data from WEI countries show the magnitude of both of these problems. Failure is the result of the interaction of many variables: some depend on the students themselves, some relate to factors in their homes and in the community environment, and others are specific to schools (*e.g.*, inappropriate teaching methods, inadequate resources or poor curriculum).

Collaboration between families, schools and communities is required to support children at risk, from birth through to their integration into the labour force.

This situation calls for the development of a broad range of policies – systemic, institutional and programmatic – to address different facets and contexts of school dropout. To be most effective, such policies need the support of the different actors involved in education: parents and students themselves; school leaders and teachers; social workers and educational authorities. Co-operation between agencies and collaboration between schools, families and communities, are required if appropriate frameworks are to be created to support children at risk, from birth through to their integration into the labour force.

Experience in some OECD and WEI countries also shows the importance of facilitating transitions and pathways throughout the school system and of improving educational and career guidance. While the transition from school

to work has become a main policy focus in most countries, greater effort is required to facilitate other transitions throughout the schooling process, especially those between the primary and the secondary level.

In the 21st century, success at school will no longer be measured solely by the number of years studied nor by the attainment of a diploma for life. Rather, students will be expected to successfully complete different itineraries and to acquire the motivation to engage in lifelong learning. This will require a more flexible curriculum; smoother transition points throughout the schooling process; less rigid forms of evaluation and certification; and a pedagogy which meets the needs of all students. The implications for teacher training – both initial and in-service – are considerable since the role and function of the teacher will have to be conceptualised in new ways.

The 21st century will need more flexible curricula, smoother transitions, less rigid forms of evaluation and certification, and a pedagogy which meets the needs of all students.

READER'S GUIDE

DEFINITIONS AND METHODS

The World Education Indicators programme (WEI) places great importance on the cross-country validity and comparability of the indicators. To accomplish this, participating countries have endeavoured to base the collection of data on a common set of definitions, instructions and methods that were derived from the OECD indicators programme. The Annex to this report provides the definitions and methods that are most important for the interpretation of the data in this publication as well as notes pertaining to reference periods and data sources.

The Annex includes five sections:

- **SECTION A1** provides general notes pertaining to the coverage of the data, the reference periods and the main sources for the data;
- **SECTION A2** provides definitions and notes that are important for the understanding of the indicators presented in this publication (the notes are organised alphabetically);
- **SECTION A3** provides a cross-reference between tables and notes;
- **SECTION A4** provides the full set of data used in this publication;
- **SECTION A5** documents the classification of 16 WEI countries educational programmes according to the *International Standard Classification of Education* (ISCED).

The full documentation of national data sources and calculation methods is provided in the OECD's 2000 edition of *Education at a Glance* and is also available on the Internet (http://www.oecd.org/els/stats/els_stat.htm).

In order to enhance the comparability of the indicators, countries participating in the WEI programme have also begun to implement a new standard for the classification of educational programmes, ISCED-97, which was developed by UNESCO to enhance the comparability of education statistics.

While comparability of the data is a prerequisite for the validity of international comparisons, it often poses challenges for the interpretation of the indicators within the national institutional context. This is because the implementation of comparable standards and classifications requires countries to diverge from national institutional structures. For example, education that is classified as ISCED level 1 in this report (primary level of

BEST COPY AVAILABLE

education) does not correspond strictly in all countries to the grades in which primary education is provided, because the number of grades associated with primary education varies greatly between countries. To facilitate an understanding of the relationship between national institutional structures and the international classification system, Chapter 1 provides an overview of how national education systems map on to ISCED-97. The detailed allocation of individual national educational programmes according to ISCED-97 is provided in the Annex to this report.

COVERAGE OF THE DATA

Although a lack of data still limits the scope of the indicators in many WEI countries, the coverage extends, in principle, to the entire national education system regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. Generally, all types of students and all age groups are meant to be included: children (including those classified as exceptional), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided that the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data. Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject-matter content similar to "regular" education studies, or that the underlying programmes lead to potential qualifications similar to those gained through corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

CALCULATION OF INTERNATIONAL AVERAGES

The OECD *country average*, which is often provided as a benchmark, is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The country average therefore refers to an average of data values at the level of national systems and can be used to illustrate how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country.

BEST COPY AVAILABLE

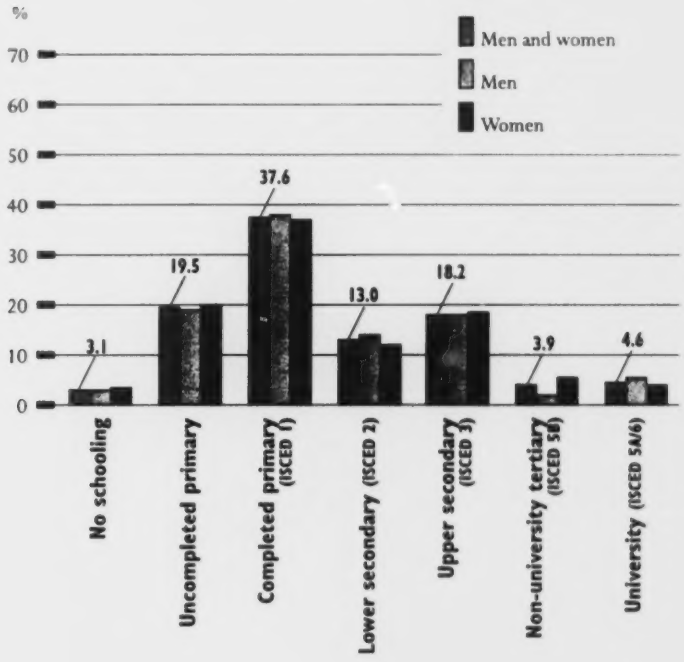
Chapter 1

COUNTRY PROFILES

ARGENTINA

- Population: 35.7 million
- Projected annual population growth rate, 1997-2015: 1.0%
- GDP per capita (in equivalent US dollars converted using PPPs): $10 300
- Average annual percentage change in GDP per capita, 1985-1997: 7.1%
- Labour force participation rate of population 25-64 years old: 70.1% (men and women); 90.7% (men); 50.2% (women)
- Total public expenditure as a proportion of GDP: 26.7%
- Proportion of public expenditure on primary-secondary education: 10.2%
- Share of educational decision types made by the central government: 3%
- Average years of full-time school expectancy, primary-tertiary: 14.3 years

Proportion of population aged 25-64 by highest level of educational attainment (1991)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	3 4 5	6 7 8 9 10 11	12 13 14	15 16 17			
	Pre-primary (ISCED 0)	Educacion General Basica, 1st and 2nd cycles (ISCED 1)	Educacion General Basica, 3rd cycle (ISCED 2)	Polimodal (ISCED 3)	Tertiary University (ISCED 5A, 1st, long)	Masters, Postgraduate (ISCED 5A, 2nd)	Doctorates (ISCED 6)
					Tertiary Non-university (ISCED 5B)		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Felix Abdala (Argentina)

Like other WEI countries, Argentina has seen rising levels of educational participation and attainment over the past several decades. Among the WEI countries, it has one of the highest lower secondary entry ratios, 93%, and one of the highest average numbers of years of expected schooling for primary through tertiary education, 12.6 years. Argentina also enrols over 85% of its young people in school at ten age levels, more than any other WEI country. Levels of upper secondary and tertiary completion are significantly lower, both in absolute terms and in terms of the relative standing of Argentina among WEI countries.

The need to improve participation in and completion of higher levels of education was one of the primary reasons for the national education reforms currently being implemented. These include a movement towards the decentralisation of primary and secondary education and the restructuring of compulsory education. The Federal Education Act passed in 1993 changed the structure of the system from seven years of primary education and five years of secondary education to three years of pre-primary education, three three-year cycles comprising *Educación General Básica* (equivalent to primary and lower secondary levels of education in the ISCED-97 classification), and three years of *Polimodal* (equivalent to the upper secondary level of education in ISCED-97). The Act also established compulsory education as beginning in the final year of pre-primary education and ending in the last year of *Educación General Básica*. Along with these structural changes, the government has implemented significant curricular reforms. To support these efforts, there has been a continuous increase in the federal education budget and an effort to generate more financial support from non-governmental sources, especially international funds. Privately managed schools enrol over 22% of Argentina's primary and secondary school students, but most of these schools receive a majority of their operating funds from the government.

Related to the overall need to improve enrolment in and completion of secondary and tertiary education are several more specific priorities. One important national goal is to improve equity in education with regard to disadvantaged schools, especially in rural areas. The main national policy initiative in this area is the *Social Plan*, which provides funding for disadvantaged schools to *i)* erect new buildings or reconstruct those that have fallen into disrepair, *ii)* recruit sufficient teachers and *iii)* buy books and teaching materials. It also establishes a scheme of grants for lower secondary-school students. Another goal is to improve the capacity to monitor these changes, which the government is supporting through changes to its processes of collecting, processing, and publishing data. The government is also seeking to improve the qualifications and training of teachers, and is introducing a new salary system, based in part on qualifications, as opposed to years of experience alone.

Recent economic changes have made expansion of the post-secondary sector all the more critical. Over the last decade, Argentina has undergone significant changes in production processes and business management, which have created a growing demand for workers with a new profile, characterised by higher technical qualifications or enhanced managerial skills. One government strategy to meet this demand is the creation of new universities which are publicly funded as well as independent, and new tertiary non-university programmes.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

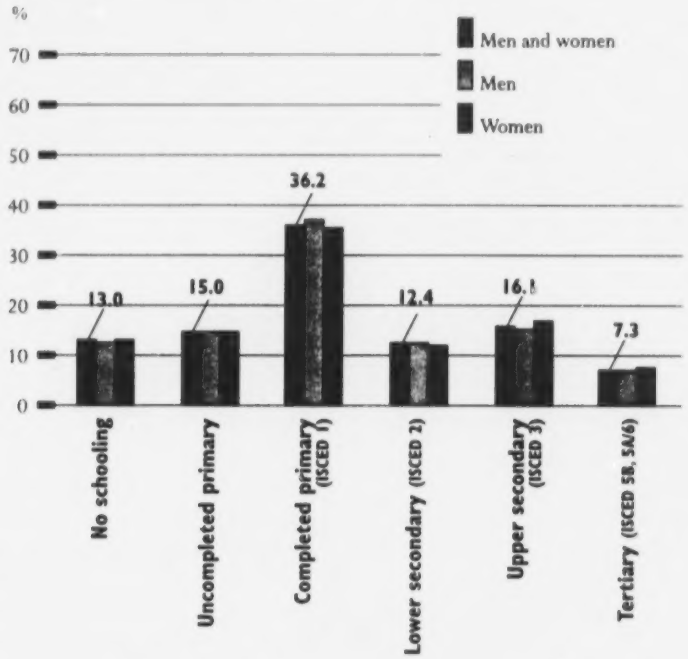
In Argentina, state governments are the major stakeholders in decisions on personnel management (100% of relevant decisions) and the allocation of resources (83% of decisions). Responsibility for curriculum development and organisation of instruction is shared between central government (13%), state governments (31%) and schools (56%). Responsibility for planning and structures is shared between state governments (56%) and schools (43%).

Schools are responsible for 34% of all decision-making areas, 15% with full autonomy, 6% after consultation with other bodies in the education system and 13% within a framework set by a higher authority.

BRAZIL

- Population: 159.9 million
- Projected annual population growth rate, 1997-2015: 1.1%
- GDP per capita (in equivalent US dollars converted using PPPs): $6 480
- Average annual percentage change in GDP per capita, 1985-1997: 4.6%
- Labour force participation rate of population 25-64 years old: 67.2% (men and women); 86.0% (men); 49.8% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.3
- Total public expenditure as a proportion of GDP: 33.4%
- Proportion of public expenditure on primary-secondary education: 10.6%
- Index of income disparity (Gini Index): 60.1
- Average years of full-time school expectancy, primary-tertiary: 13.4 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	4 5 6	7 8 9 10	11 12 13	14	15 16 17			
	Pre-school/ Kinder-garten (ISCED 0)	Primary – 1st cycle (ISCED 1)	Primary – 2nd cycle (ISCED 2)		Secondary (ISCED 3)	Bacharelado (ISCED 5A, 1st, long)	Mestrado (ISCED 5A, 2nd)	Douttorado (ISCED 6)
						Licentiatura plens/Bachalaredo (ISCED 5A, 1st, short)		
						Licentiatura courts/Tecnólogo (ISCED 5B)		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Ivan Castro de Almeida (Brazil)

One of the major priorities of the central government has been and continues to be the provision of basic education for all children. Between 1991 and 1997, the years of schooling which a 5-year-old could expect in Brazil increased from 8.7 to 10.5 years, with almost a year of this increase being due to higher rates of participation at upper secondary level. Currently, almost all children of primary-school age are enrolled in school. Enrolment in later stages of education is increasing as well, a trend reflected in the fact that the percentage of 16-year-olds enrolled in secondary schooling increased from 46% in 1990 to 71% in 1996.

At the same time, however, rates of completion are not rising as rapidly, and at some levels are even declining. Moreover, each student spends on average more than two years repeating a grade during primary and lower secondary education, the highest rate of repetition among WEI countries. Thus, in addition to focusing on enrolment, the government has made it a priority to improve the internal efficiency of the education system by reducing grade repetition and dropout. Central to this goal are strategies for improving the curriculum, such as the *National Curriculum Parameters*, which establish references and minimum standards of quality for primary education, and measures to improve the skill levels of educational personnel, such as the establishment of higher standards, more professional development opportunities and financial incentives for outstanding performance.

Perhaps the most significant reforms have taken place in the area of educational funding. Compared with other WEI countries, Brazil has a relatively high income gap between people in urban and rural areas. Thus one goal of funding reforms has been to ensure that the expansion of educational opportunities reaches all segments of the population, especially those living in economically disadvantaged areas. In addition, funding reforms are part of a strategy to decentralise certain aspects of the education system to allow for more local autonomy. Important recent reforms include:

- The *Fund for the Maintenance and Development of Primary Education and the Teaching Career* (FUNDEF), which allocates financial resources on the basis of the number of enrolments in primary education. The Fund tops up spending by states and municipalities when this does not reach the guaranteed minimum expenditure per student. The Fund was also created to promote higher qualifications for teachers and improved career opportunities.
- Funding of initiatives focusing on the poorest regions, where there are greater gaps in access to and opportunities for education: through the *Northeast Project* and *Fundescola* to help to improve participation and quality in primary education, and also through the *Literacy Solidarity Programme* to help local authorities in these areas to implement adult literacy programmes.
- Creation and implementation of the *Money in School* project, which provides for the transfer of funds from the central government share of the *Payroll Education Tax* directly to schools, in order to give them greater autonomy and efficiency in the use of public money. The project also encourages community participation in school management.

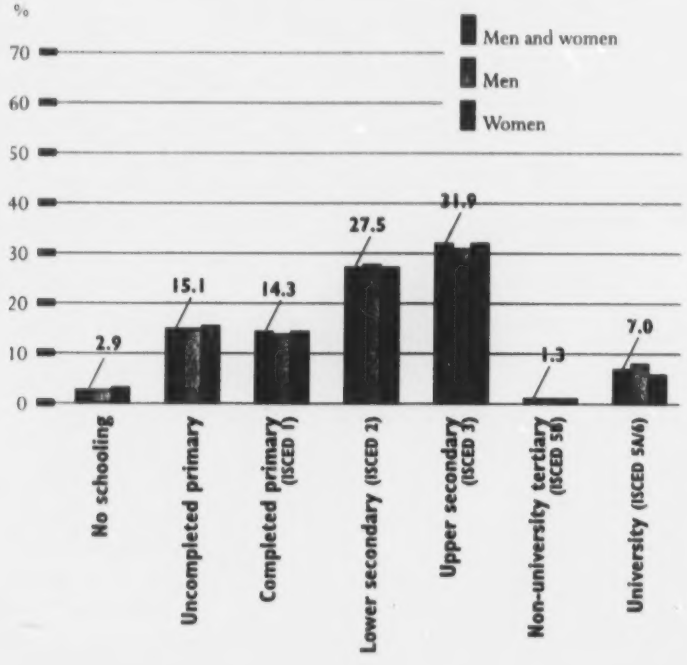
Tertiary education has experienced a significant expansion as well, both in terms of levels of participation and in terms of the financial resources invested in tertiary programmes and institutions.

A demographic window of opportunity, with a marked decline in the population at primary and lower secondary levels over the next decade, will allow the education system to focus on the quality and equity of educational provision.

CHILE

- Population: 14.6 million
- Projected annual population growth rate, 1997-2015: 1.1%
- GDP per capita (in equivalent US dollars converted using PPPs): $12 730
- Average annual percentage change in GDP per capita, 1985-1997: 15.0%
- Labour force participation rate of population 25-64 years old: 66.5% (men and women); 91.9% (men); 42.2% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.6
- Total public expenditure as a proportion of GDP: 21.7%
- Proportion of public expenditure on primary-secondary education: 11.8%
- Share of educational decision types made by the central government: 7%
- Average years of full-time school expectancy, primary-tertiary: 13.1 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	2 3 4 5	6 7 8 9 10 11	12 13	14 15 16 17			
	Pre-school (ISCED 0)	Basic Education: Primary (ISCED 1)	Basic Education: Lower secondary (ISCED 2)	General Middle Education (ISCED 3A)	Professional Programmes (ISCED 5A, 1st, long)	Professional Programmes (ISCED 5A, 2nd)	Magister and Doctoral Programmes (ISCED 6)
					Bachiller (ISCED 5A, short)		
				Vocational Middle Education (ISCED 3B)	Technical Programmes (ISCED 5B)		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Vivian Heyl Chiappini (Chile)

On general measures of educational participation and attainment, Chile ranks favourably among WEI countries. It has among the highest lower and upper secondary attainment rates across all age groups and relatively high lower secondary entry and graduation ratios. A high level of national income allows Chile to invest around PPP US$ 2 000 per secondary student, more than any other WEI country. What these measures do not address, however, are several issues of concern to the government, including quality, equity, and effectiveness of school management. These issues are of importance in Chile, since high levels of income disparity create the potential for wide disparities in educational opportunities.

Since 1990, the government of Chile has, progressively, been implementing an education reform initiative focusing on four areas:

- curriculum reform;
- pedagogic innovation;
- professional development to support and create incentives for teachers; and
- more hours of daily instruction.

Over this period, the government has also increased funding for education, with special initiatives targeted to socioeconomic vulnerable schools, and has continued a process of decentralisation, giving more autonomy to municipalities and individual schools.

Initial results from these reform efforts include: *i)* new curricula for primary and secondary education, which are currently being implemented in the 1st through the 5th grades and in the 9th grade and which are scheduled to be implemented in all grades by 2002; *ii)* the introduction of programmes for educational improvement; *iii)* the participation of over half of the country's primary and secondary level teachers in training activities related to the new curriculum and innovative uses of modern school materials and technologies; and *iv)* new schedules with increased hours in many of the nations schools with the aim of covering all schools in the next years. The government has also established financial incentives for school improvement, including a national reward programme for teachers and the National Evaluation System of School Development Performance (SNED), which provides cash awards to schools with particularly high levels of performance. The government reports these measures to have had a measurable impact on the areas of quality and equity. It cites the results of a national achievement test (SIMCE) taken by 4th-grade students in 1996, by 8th-grade students in 1997 and 12th-grade students in 1998, which showed improvements for all types of schools (*i.e.*, public, government dependent private, and independent private schools), with the greatest improvements being made by the poorest schools.

To improve access to tertiary education and its quality, the government has adopted the MECESUP programme, which focuses on programme quality, improving of financial support for students, and increasing the relevance of technical tertiary education.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

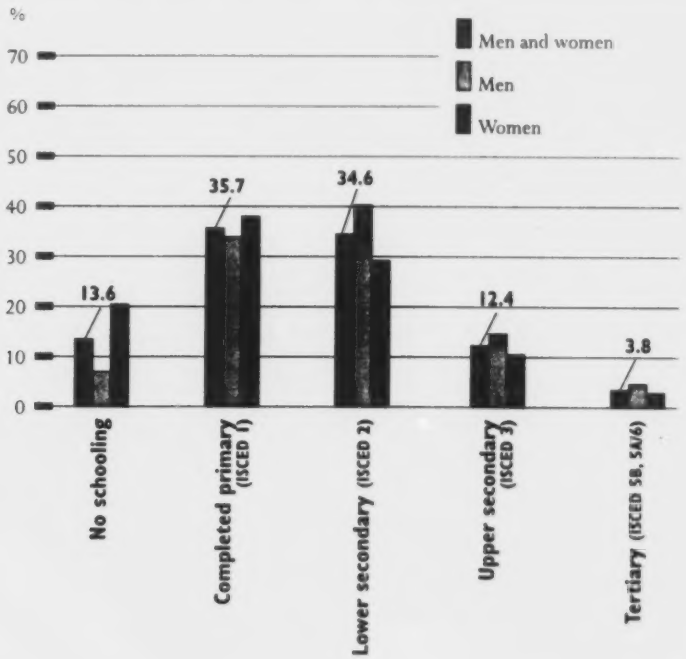
In Chile, local governments are the major stakeholder in decisions on personnel management (100% of relevant decisions) and the allocation of resources (88% of decisions). Responsibilities for curriculum development and organisation of instruction are primarily at the school level (88%). Responsibility for planning and structures is shared between the central government (14%), local governments (29%), and schools (57%).

Schools are responsible for 36% of all decision-making areas of which 3% in full autonomy and 33% within a framework set by a higher authority.

CHINA

- Population: 1 243.5 million
- Projected annual population growth rate, 1997-2015: 0.7%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 130
- Average annual percentage change in GDP per capita 1985-1997: 23.9%
- Labour force participation rate of population 25-64 years old: 88.1% (men and women)
- Share of educational decision types made by the central government: 21%
- Index of income disparity (Gini Index): 41.5
- Average years of full-time school expectancy, primary-tertiary: 10.1 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	3 4 5	6 7 8 9 10 11	12 13 14	15 16 17			
	Pre-school (ISCED 0)	Primary (ISCED 1)	Junior Middle School (ISCED 2)	Senior High School (ISCED 3)	University (ISCED 5A, 1st, long and short)	Master's Degree (ISCED 5A, 2nd)	PhD. (ISCED 6)
					Non-university Post-secondary (ISCED 5B)		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Lin Zhi Hua (China)

One of the major educational priorities of the Chinese government is to ensure that all young people throughout the country complete the nine years of compulsory schooling (equivalent to the completion of primary and lower secondary levels in ISCED-97). This continues the trend of rapidly increasing rates of participation in education over the last few decades. This trend is illustrated by the fact that while only 23% of the population aged 55-64 years have completed lower secondary education or above, among the population aged 20-24 years, the lower secondary completion rate is 70%.

Currently, primary school enrolment is almost universal for children aged 7-11 years. Although the resulting increased demand for primary school teachers has been met in part, class sizes have also had to rise. Lower secondary school participation is rising as well, and has nearly reached the government target of 85% gross participation. While rates of participation are increasing, the size of the potential student population (aged 5-10 years) is declining. This trend should help to alleviate some of the strain on resources caused by increasing enrolment. At the same time, however, the population aged 11-19 years – the potential student base for secondary and tertiary education – is increasing, with the age group 15-19 years alone being expected to grow by 21% over the period 1996-2006.

In addition to further increasing access to and participation in education, the government has established several other major priorities, including:

- Eliminating illiteracy among the young and middle-aged, by reducing the illiteracy rate among the 15-45 age group to under 5%;
- Improving pre-primary education in both urban and rural areas;
- Addressing the educational needs of ethnic minorities and the disabled;
- Further developing the existing cultural and technical schools for adults in rural towns and townships; and
- Expanding tertiary education, particularly higher vocational education, to meet the demands of social and economic development.

Since the early 1980s, the Chinese government has undertaken a series of far-reaching educational reforms. These include:

- A significant expansion in provision of vocational and technical education at the secondary level; and
- A decentralised management system, with local authorities being given responsibility for basic education and greater institutional autonomy, often achieved in partnership with enterprises and social communities.

To support the reform efforts, the government has committed itself to gradually increasing educational funding to a target of 4% of the country's Gross Domestic Product (GDP).

Decision-making in lower secondary public schools

(data based on a 1997 WEI survey – see Annex)

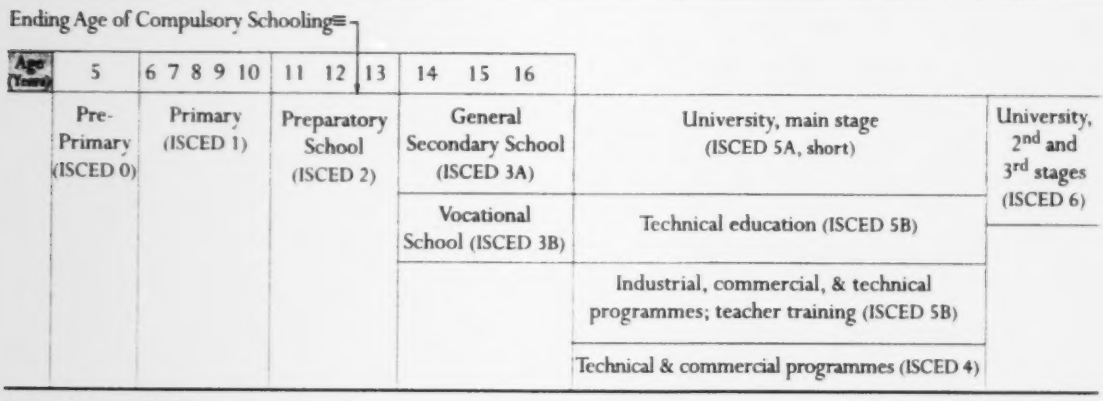
In China, most decisions on personnel management (75% of relevant decisions) and curriculum development and organisation of instruction (63%) are made at the school level. Local governments also play a substantial role (25% of decisions) in personnel management and the central government a substantial role (25% of decisions) in the organisation of instruction. The allocation of resources is primarily a responsibility of local governments (88%) while responsibility for decisions on planning and structures is shared between central government (57%), local governments (29%), and schools (14%).

Overall, schools are responsible for 46% of all decision-making areas, 22% with full autonomy and 24% within a framework set by a higher authority.

EGYPT

- Population: 58.8 million
- Projected annual population growth rate, 1997-2015: 1.5%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 050
- Average annual percentage change in GDP per capita, 1985-1997: 7.8%
- Total public expenditure as a proportion of GDP: 25.4%
- Index of income disparity (Gini Index): 32.0
- Average years of full-time school expectancy, primary-upper secondary: 9.7 years

Structure of the Education System


Ending Age of Compulsory Schooling
Age (Years)
5
6 7 8 9 10
11 12 13
14 15 16
Pre-Primary (ISCED 0)
Primary (ISCED 1)
Preparatory School (ISCED 2)
General Secondary School (ISCED 3A)
Vocational School (ISCED 3B)
University, main stage (ISCED 5A, short)
Technical education (ISCED 5B)
Industrial, commercial, & technical programmes; teacher training (ISCED 5B)
Technical & commercial programmes (ISCED 4)
University, 2nd and 3rd stages (ISCED 6)

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Mohamed Abdul Salam Ragheb (Egypt)

Increasing participation in the education system has been one of the highest national educational priorities in Egypt. This is particularly challenging since Egypt has a relatively high proportion of young people of school age (aged 5-14 years) – 25.7% of its population. This is the fourth highest percentage among the 14 WEI countries for which data are available. The existence of a high proportion of young people of school age means a relatively small base of employed adults capable of supporting the education system, either through taxes or tuition fees.

Challenges arising from the rapid expansion of the education system have been a shortage of qualified teachers, inappropriate programmes, a high rate of student dropout, inadequate school facilities and high student-teaching staff ratios.

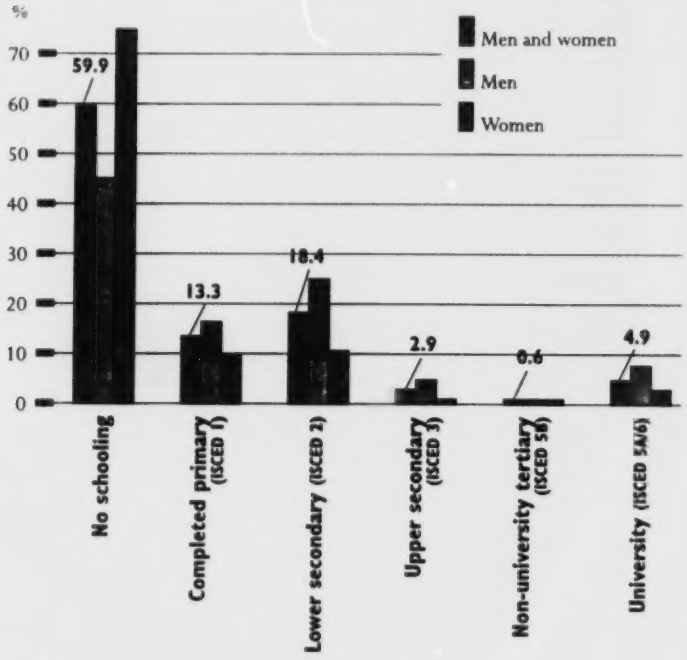
In order to meet these challenges, the Egyptian government is placing higher emphasis on ensuring the quality of education. For example, it is attempting to reduce class sizes and to eliminate the need for multiple shifts at schools (whereby different groups of students attend the same school at separate times during the day) by improving teacher training programmes and increasing the school construction rate. It is also introducing modern educational technology in schools: 17 000 schools are now equipped with computers and Internet access and a nation-wide videoconference system has been established.

Egypt has also placed a high priority on aligning the education system with the needs of the labour market. One reflection of this is the high proportion of secondary-school students enrolled in pre-vocational and pre-technical programmes: 63.9%.

INDIA

- Population (1991): 846.3 million
- Projected annual population growth rate, 1997-2015: 1.2%
- GDP per capita (in equivalent US dollars converted using PPPs): $1 670
- Average annual percentage change in GDP, 1985-1997: 11.0%
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.3
- Total public expenditure as a proportion of GDP: 8.3%
- Share of educational decision types made by the central government: 0%
- Index of income disparity (Gini Index): 29.7

Proportion of population aged 25-64 by highest level of educational attainment (1991)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	5	6 7 8 9 10	11 12 13	14 15	16 17			
	Pre-primary (ISCED 0)	Primary (ISCED 1)	Upper Primary (ISCED 2)	Secondary (ISCED 3C)	High School/ Senior Secondary ISCED 3A	ISCED 5A, 1st, long	ISCED 5A, 2nd	Doctoral Studies (ISCED 6)
						ISCED 5A, 1st, short		
						ISCED 5B		
						ISCED 4		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by R. S. Thakur (India)

The Constitution of India states that the government shall endeavour to provide free and compulsory education for all up to the age of 14 years. The challenge is to meet this goal while also sustaining and broadening current requirements in education and encouraging local planning and management of primary education. Several central and state-level initiatives have been in operation since the early 1980s to help local districts to increase girls' enrolment, improve educational outcomes, strengthen community involvement, improve teaching and learning materials, and provide in-service teacher training. The government has also pledged to eliminate adult illiteracy by 2005, through the *National Literacy Mission*. The adult literacy rate has considerably increased, from 27.26% (13.15% for females) in 1961 to 57% (43% for females) in 1997.

Among WEI countries, India has the largest gaps between men and women in lower and upper secondary attainment; thus, the education of girls and women is a high priority for the *National Policy on Education* (NPE). However, while the ratio of female to male upper secondary attainment is among the lowest among WEI countries for all adult age groups, the ratio for 25-34 year-olds is more than double the ratio for 55-64 year-olds.

One example of an effort to improve the educational attainment of women is the *Mahila Samakhya Programme*, which has been launched in seven states of the Indian Union. One of its strategies to increase the participation of girls in education is to provide free education for girls up to college level.

Several other programmes have been launched to promote greater equity in education. The *National Programme of Nutritional Support to Primary Education* (NPNSPE) is designed to help to reduce dropout rates in primary classes. The *District Primary Education Project* supports decentralised planning for universal elementary education. The *Lok Jumbish Programme* in Rajasthan aims to achieve education for all. *Operation Blackboard* was introduced in 1986 by the central government in conjunction with the *National Policy on Education* to help primary schools (ISCED 1), and subsequently extended to cover lower secondary schools (ISCED 2) as well. Under the programme, resources are provided for the salaries of primary school teachers, for the construction of buildings and for equipment. The *District Institutes of Education and Training* is another scheme initiated by the central government, which provides in-service and pre-service training for elementary school teachers. The central government scheme *Navodaya Vidyalyas* funds residential schools in each school district that identify and admit talented children from rural areas.

Many states have enacted laws making primary education compulsory. The central government has also introduced the 83rd Constitutional Amendment making elementary education a fundamental right of the child and a fundamental duty of the parent.

The population structure of India is expected to undergo profound changes. In the 21st century the population growth rate in India is expected to decrease. However, population growth will still be substantial. The total population is expected to increase from 846.3 millions in 1991 to 1 263.5 millions in 2016, requiring more school facilities at all levels. Huge financial resources are required to meet the demand for places in school. Expenditure on education as a percentage of GDP has steadily increased since the 1950s with a future goal of 6%.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

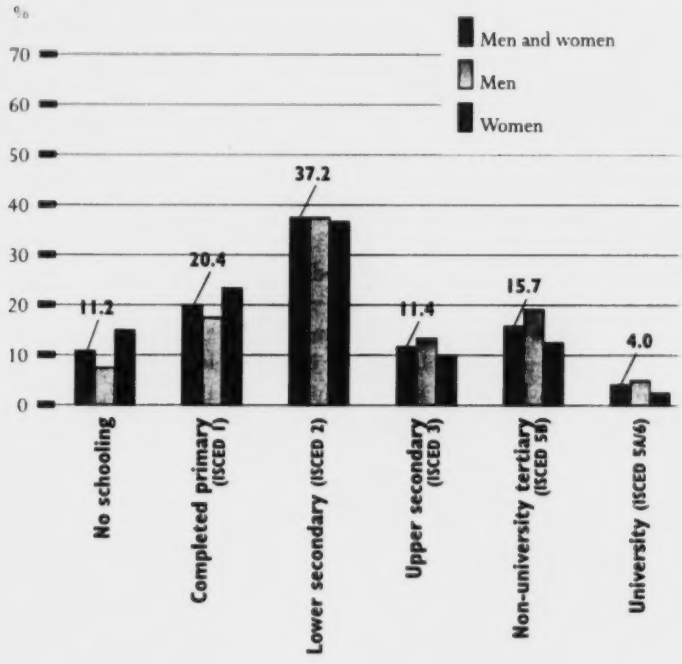
In India, provincial and regional governments are the major stakeholders in decisions on personnel management, planning and structures, and allocation of resources (100% of decisions in all three domains). Responsibility for curriculum development and organisation of instruction is shared between provincial and regional governments (63%) and schools (38%).

Overall, schools are responsible for only 9% of all decision-making areas, over which they have full autonomy.

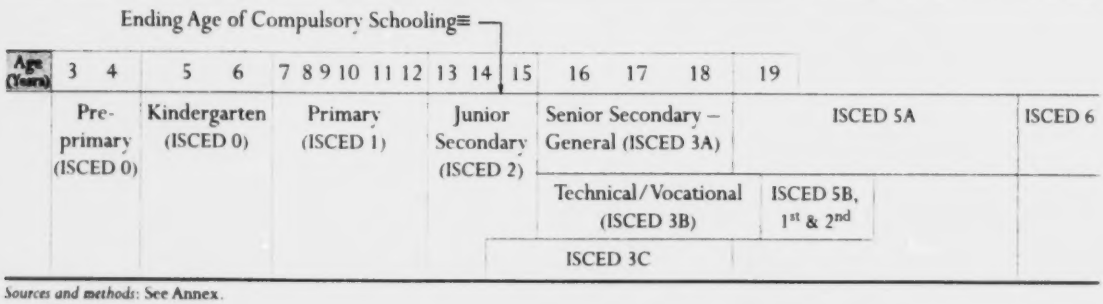
INDONESIA

- Population: 198.3 million
- Projected annual population growth rate, 1997-2015: 1.3%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 490
- Average annual percentage change in GDP, 1985-1997: 14.7%
- Labour force participation rate of population 25-64 years old: 77.2% (men and women); 97.9% (men); 58.3% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.5
- Total public expenditure as a proportion of GDP: 20.2%
- Share of educational decision types made by the central government: 63%
- Index of income disparity (Gini Index): 36.5
- Average years of full-time school expectancy, primary-tertiary: 9.2 years

Proportion of population aged 25-64 by highest level of educational attainment (1996)



Structure of the Education System


Ending Age of Compulsory Schooling
Age (Years)
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Pre-primary (ISCED 0)
Kindergarten (ISCED 0)
Primary (ISCED 1)
Junior Secondary (ISCED 2)
Senior Secondary – General (ISCED 3A)
ISCED 5A
ISCED 6
Technical/Vocational (ISCED 3B)
ISCED 5B, 1st & 2nd
ISCED 3C

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Ade Cahyana (Indonesia)

The Indonesian central government has four major priorities in education:

- Improving access to education, especially basic education;
- Improving the quality of education;
- Increasing the relevancy of education, using the "Link and Match" concept; and
- Encouraging the mastery of science and technology at all levels of education.

Significant progress has already been made towards these goals, especially with regard to improving access to basic education. While Indonesia's lower secondary attainment rate among 55-64 year-olds is the lowest among WEI countries, the same rate among 25-34 year-olds is more than three times as high. The percentage of the population completing at least primary education has risen steadily over the last few decades: nearly 82% of persons aged 25-34 years have completed at least primary education, compared with only about 51% of those in the age group 55-64 years. Yet, by comparison with other WEI countries, or the average of OECD countries, there appears to be room for much greater expansion of educational opportunities at all levels.

The recent economic crisis poses one of the greatest challenges to expanding educational opportunities. It has placed a strain not only on the government's ability to support its educational efforts, but also on individuals' and families' abilities to afford the cost of education. Although this trend is too recent to be observed in the WEI data used in this report, there are reports of increased dropout at the lower secondary level associated with the economic crisis. The fact that technological developments are increasing the skill requirements of many jobs places dropouts at a disadvantage in the labour market. To help prevent students from dropping out, the Ministry of Education, along with other relevant ministries, has created the *Social Safety Net*, which provides scholarships and other financial assistance for students in need. The Ministry has also given additional support to schools for building maintenance.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

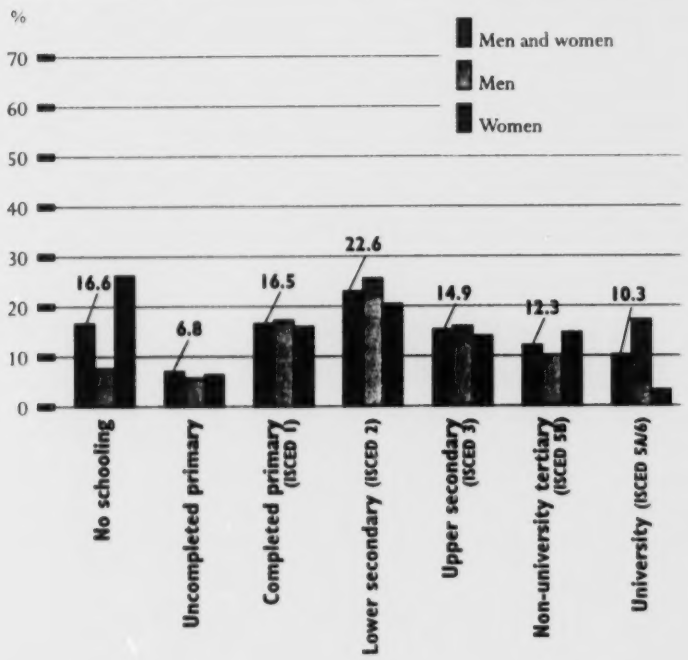
In Indonesia, decisions on the allocation of resources are made exclusively by central government. Decisions on curriculum development and organisation of instruction, however, are shared between central government (38% of relevant decisions) and schools (63%), as are decisions on personnel management (58% of decisions made by central government and 42% by schools). Responsibility for planning and structures is shared between central government (57%), provincial and regional governments (29%), and schools (14%).

Overall, schools are responsible for 30% of all decision-making areas, over which they have full autonomy.

JORDAN

- Population: 4.6 million
- Projected annual population growth rate, 1997-2015: 2.4%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 450
- Average annual percentage change in GDP, 1985-1997: 1.7%
- Labour force participation rate of population 25-64 years old: 47.1% (men and women); 80.2% (men); 13.9% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/0.5
- Total public expenditure as a proportion of GDP: 26.6%
- Proportion of public expenditure on primary-secondary education: 17.6%
- Share of educational decision types made by the central government: 65%
- Index of income disparity (Gini Index): 43.4
- Average years of full-time school expectancy, primary-tertiary: 11.3 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Ending Age of Compulsory Schooling ≡

Age (Years)	4 5	6 7 8 9 10 11	12 13 14 15	16 17			
	Pre-school (ISCED 0)	Basic Education – Primary (ISCED 1)	Basic Education – Preparatory (ISCED 2)	Comprehensive Secondary Education (ISCED 3A)	University Programmes (ISCED 5A, 1st, short & long)	Master's (ISCED 5A, 2nd)	PhD. (ISCED 6)
				Applied Secondary Education (ISCED 3C)	Community College Programmes (ISCED 5B)		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Jehad Jamil Abu El-Shaar (Jordan)

The year 1999 was the final year of the ten-year *Educational Development Plan* begun in 1989. The Plan sought significant improvements in both levels of participation and the quality of educational services provided. Some of its major aims included:

- Improving access to basic and secondary education for all;
- Reducing overcrowding in schools;
- Decreasing illiteracy;
- Increasing enrolment in vocational education;
- Enhancing the curriculum; and
- Utilising new technologies in teaching and administration.

One of the challenges which the country faced in attempting to fulfil the first aim, improving access to education, was a rapidly growing youth population. As an example of this growth, during the period 1990 to 1997, the population aged 5-14 years grew by 23%. Typically, when the population of potential students increases rapidly, it is difficult for the education system to match that growth with appropriate changes in infrastructure. The system has, however, been successful in increasing the participation of youth: the participation rate of 15-19 year-olds in primary and secondary education increased by 42% between 1990 and 1997, partly as a result of the extension of compulsory education from nine to ten years. Of the five WEI countries for which data are available, Jordan also devotes the largest proportion of educational expenditure, 13.8%, to capital expenditure (long-term investments such as new school construction).

The Ministry of Education expects demand for secondary education to grow, not only because of a growing population of potential students, but also because of the demands of the labour market. In order to continue to meet this demand, the government intends to encourage the private sector to invest further in education. The co-operation of the private sector will also be essential as the Ministry intends to increase enrolment in vocational education and to improve its alignment with labour market needs.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

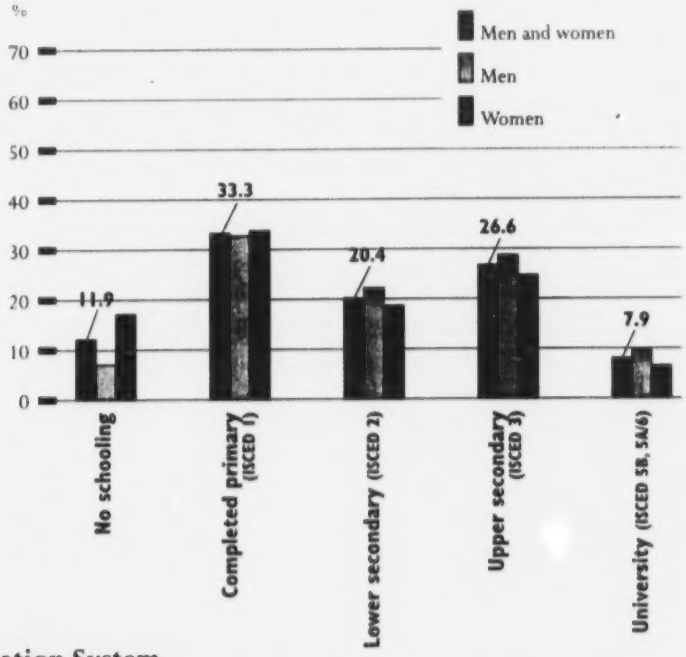
In Jordan, central government is the major stakeholder in decisions about the allocation of resources (83% of relevant decisions), planning and structures (71%), and personnel management (67%). Local governments are also important in these three domains (17%, 14% and 33% of all decisions, respectively). Responsibility for curriculum development and organisation of instruction is shared between schools (50%), central government (38%), and local governments (13%).

Overall, schools are responsible for 16% of all decision-making areas, 9% within a framework set by a higher authority, 4% after consultation with other bodies in the education system, and 3% with full autonomy.

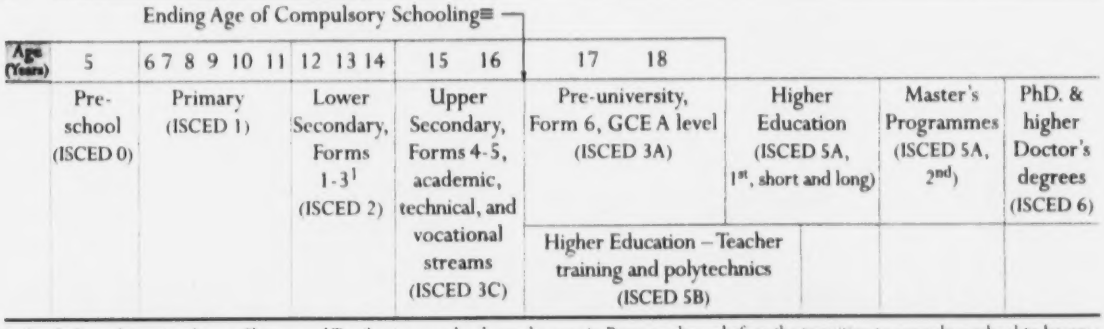
MALAYSIA

- Population: 21.7 million
- Projected annual population growth rate, 1997-2015: 1.6%
- GDP per capita (in equivalent US dollars converted using PPPs): $8 140
- Average annual percentage change in GDP per capita, 1985-1997: 13.3%
- Labour force participation rate of population 25-64 years old: 71.7% (men and women); 94.9% (men); 47.6% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.3
- Proportion of public expenditure on primary-secondary education: 9.1%
- Share of educational decision types made by the central government: 82%
- Index of income disparity (Gini Index): 48.4
- Average years of full-time school expectancy, primary-tertiary: 10.9 years

Proportion of population aged 25-64 by highest level of educational attainment (1990)



Structure of the Education System


Ending Age of Compulsory Schooling
Age (Years)
5
6 7 8 9 10 11
12 13 14
15 16
17 18
Pre-school (ISCED 0)
Primary (ISCED 1)
Lower Secondary, Forms 1-3[1] (ISCED 2)
Upper Secondary, Forms 4-5, academic, technical, and vocational streams (ISCED 3C)
Pre-university, Form 6, GCE A level (ISCED 3A)
Higher Education – Teacher training and polytechnics (ISCED 5B)
Higher Education (ISCED 5A, 1st, short and long)
Master's Programmes (ISCED 5A, 2nd)
PhD. & higher Doctor's degrees (ISCED 6)

1. Pupils from the national-type Chinese and Tamil primary school spend a year in Remove classes before the transition to secondary school to become proficient in Bahasa Melayu.

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Khalijah Mohammad (Malaysia)

Malaysia is consistently among the highest ranking WEI countries in terms of indicators of the educational attainment of recent generations and of current enrolment and completion. Among WEI countries, it shows the largest difference in educational attainment between 55-64 year-olds (16% with at least lower secondary) and 25-29 year-olds (79%), indicating a rapid expansion of the education system. This has been accomplished despite increasing demographic pressure. Malaysia also ranks high on indicators of financial investment in education. In 1997, for example, educational expenditure amounted to 4.7% of GDP, third among the eight WEI countries for which data are available, and the average salary of lower secondary school teachers with 15 years' experience was PPP US$19 800, the highest among the eight WEI countries reporting data.

The achievement of high levels of participation in primary and secondary schooling has helped to shift national education goals towards the expansion of the tertiary sector. Although Malaysia's entry rate for upper secondary education is 72%, third of the seven WEI countries reporting data, its entry rates for tertiary-level education are comparatively low. One of Malaysia's strategies for expanding the tertiary sector is a new system of governance introduced recently in all public universities. Under this system, the universities have more autonomy, allowing them to: *i)* increase their competitiveness by reorganising themselves, *ii)* institute new salary schemes, and *iii)* undertake entrepreneurial ventures. The Ministry of Education has also established the *National Higher Education Loan Fund* for study at the tertiary level and is seeking greater private sector involvement in tertiary education.

The expansion of the upper secondary and tertiary education sectors is driven by the growing labour-market demand for workers with higher levels of skills, particularly those with technical and scientific knowledge. Therefore, the government is seeking to ensure that the future development of educational opportunities is closely aligned with labour market needs. It is encouraging the expansion of technical and polytechnic education and has established a target of 60% for upper secondary enrolment in scientific fields. The development of information technology skills has become a high priority at all levels. The government has already established 90 "Smart Schools", which have an emphasis on computers and information technology, to serve as pilot schools for future development.

Decision-making in lower secondary public schools

(data based on a 1997 WEI survey – see Annex)

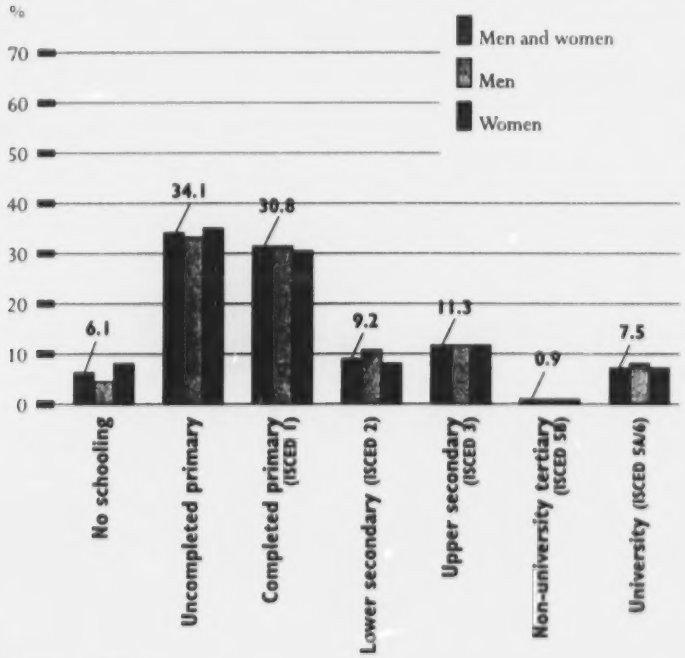
In Malaysia, central government is the major stakeholder in decisions about personnel management (100%), planning and structures (93% of relevant decisions), and allocation of resources (83%). Responsibility for curriculum development and organisation of instruction, however, is shared by central government (50%) and schools (50%).

Overall, schools are responsible for 18% of decision-making areas, 9% with full autonomy and 9% within a framework set by a higher authority.

PARAGUAY

- Population: 5.1 million
- Projected annual population growth rate, 1997-2015: 2.0%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 980
- Average annual percentage change in GDP per capita, 1985-1997: 4.8%
- Labour force participation rate of population 25-64 years old: 75.6% (men and women); 95.9% (men); 55.4% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/0.8
- Total public expenditure as a proportion of GDP: 20.0%
- Proportion of public expenditure on primary-secondary education: 15.4%
- Share of educational decision types made by the central government: 67%
- Index of income disparity (Gini Index): 59.1
- Average years of full-time school expectancy, primary-tertiary: 10.6 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	5	6 7 8 9 10 11	12 13	14	15 16 17		
	Initial Ed. (ISCED 0)	Basic School Education, 1st and 2nd Cycle (ISCED 1)	Basic School Education, 3rd Cycle (ISCED 2)		Humanistic & Scientific Baccalaureates (ISCED 3A)	University (ISCED 5A)	Post-graduate (ISCED 6)
			Basic School Ed., technical (ISCED 2)		Technical Baccalaureate (ISCED 3C)	Non-university Tertiary (ISCED 5B)	

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Hilda Gonzalea Garcete (Paraguay)

The main educational priority of the central government is to increase participation rates in *Basic Education* (the primary and lower secondary levels in ISCED 97). Participation has already increased significantly over the past few decades: the proportion of 20-24 year-olds having completed at least lower secondary education (43%) is over two-and-a-half times greater than the proportion of 55-64 year-olds with the same level of qualifications (16%). Despite these significant increases in attainment, levels remain relatively low when compared with other WEI countries. For example, the current average school expectancy, 10.6 years, is lower than that of all but one of the nine other WEI countries reporting data. Paraguay is also expected to see a 31% increase in the size of its 15-19 age group by the year 2007, which will add further to the pressure on the education system.

The government has put forward three strategies to increase participation:

- Improving the infrastructure through the construction and renovation of schools;
- Improving the teaching skills of teachers without credentials; and
- Maintaining and increasing the levels of growth in the relative proportion of GDP invested in education.

There are several factors in Paraguay that make mobilising resources to support the expansion of education particularly challenging. Firstly, Paraguay recently experienced an economic recession, which not only placed additional constraints on the education budget, but also placed financial strains on potential students and their families. Secondly, the recession resulted in migration from rural to urban areas, creating a need to shift educational resources. Thirdly, Paraguay has one of the highest ratios of young people of school age to employed persons among WEI countries, 0.9 employed persons to every person aged 5 to 14. This means that there are relatively few people to generate the resources needed to support growth in participation. Finally, Paraguay has one of the highest levels of income disparities, not just among WEI countries but in the world (as measured by Gini Indices – see Chapter 2). Since disparities in income are often reflected in patterns of educational participation and completion, this means that large sections of the population may be less likely to benefit from expansion of the education system.

In response to the need to improve educational opportunities at a time of economic difficulty, the government has relied on the financial and technical support of international organisations. At the same time, community-based initiatives have also been developed, such as the *Integrated Community Action Centres* (CIAC) and the *Association of School Co-operatives* (ACES).

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

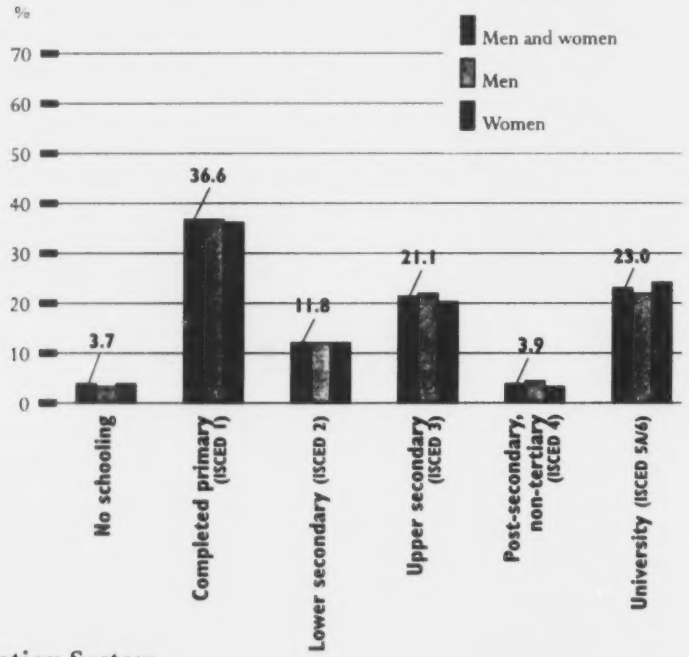
In Paraguay, central government makes all personnel management decisions. Other decisions are shared between central government and schools: 50% each for decisions on curriculum development and organisation of instruction; and 67% and 33%, respectively, for decisions on planning and structures, and resource allocation.

Overall, schools are responsible for 33% of decision-making areas, 24% with full autonomy and 10% in consultation with other bodies in the education system.

PHILIPPINES

- Population: 71.5 million
- Projected annual population growth rate, 1997-2015: 1.9%
- GDP per capita (in equivalent US dollars converted using PPPs): $3 520
- Average annual percentage change in GDP, 1985-1997: 5.8%
- Labour force participation rate of population 25-64 years old: 76.2% (men and women); 96.3% (men); 56.5% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.2
- Total public expenditure as a proportion of GDP: 21.5%
- Proportion of public expenditure on primary-secondary education: 12.2%
- Share of educational decision types made by the central government: 37%
- Index of income disparity (Gini Index): 42.9
- Average years of school expectancy, primary-tertiary: 12.0 years

Proportion of population aged 25-64 by highest level of educational attainment (1996)



Structure of the Education System

Ending Age of Compulsory Schooling

Age (Years)	5	6 7 8 9 10 11	12 13 14	15	16 17	18		
	Pre-primary (ISCED 0)	Elementary (ISCED 1)	Secondary-General (ISCED 2)	Secondary-General (ISCED 3)	Bachelor's Programmes (ISCED 5A, 1st, medium & long)		Professional and Master's Programmes (ISCED 5A, 2nd)	Doctorate (ISCED 6)
					Assoc. Programmes (ISCED 5A, 1st, short)			
					Technical & Vocational Programmes (ISCED 4A) (1 to 3 years)			

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Ramon C. Bacani (Philippines)

Several of the WEI indicators point to a strong commitment to education in the Philippines, with comparatively high levels of educational participation and completion. With regard to financial investment in education, the Philippines devotes a larger proportion of its public expenditure to education than seven of the eight other WEI countries reporting such data, even though its financial resources are limited – GDP per capita (PPP US$ 3199) being only ninth highest among the 16 WEI countries. Students and teachers in the Philippines also have the highest number of annual hours of instruction among their WEI peers.

Despite the high value placed on education, there are several significant challenges to the further expansion of the education system in the Philippines. Firstly, there are large disparities in income – particularly between urban and rural areas – which are often associated with disparities in educational quality, participation and attainment. Secondly, although the Philippines weathered the recent Asian financial crisis better than other nations, the impact was nonetheless significant, and has strained the government's ability to support educational development. Thirdly, despite the introduction of free secondary schooling in 1988, the secondary-level cohort survival rate decreased from 76% in 1993 to 71% in 1997, indicating the need for significant further improvements. Finally, there is general recognition within the country that the level of academic achievement, especially in mathematics and technical areas, is not sufficient to meet the needs of the emerging labour market.

To address these issues, the government has adopted several strategies. Among these are:

- A system of resource allocation that gives priority to the most basic learning needs and targets the most under-served or marginalised groups and areas. This strategy of focusing on basic education is reflected in the proportion of educational spending devoted to primary education. Although in all WEI countries reporting data, the percentage of educational expenditure devoted to primary education is less than the percentage of students enrolled at that level, in the Philippines this gap is relatively small.
- Changes in management of the education system, including a restructuring of the levels of education and the *Ten-year Master Plan for Basic Education* (1996-2005), which promotes modernisation and decentralisation, with the goal of making individual schools better tailored to local conditions and needs.
- The development of vocational education programmes at the secondary and tertiary levels. Major features of this effort are the *Technical Education and Skills Development Act of 1994*, which established technical vocational education and training as one of the major pillars of the education system, and the *Dual Training Act*, intended to strengthen the dual training system and to extend it to agriculture and related activities. The *Dual Training Act* combines learning in school and the workplace and seeks to produce graduates whose skills are attuned to the needs of the economy.
- The alignment of the content and pedagogical approaches of mathematics education with the national and regional emphasis on globalisation.
- The enhancement of the relevance of the curriculum through the use of an appropriate language of instruction, the development of a curriculum sensitive to gender issues and based on indigenous cultures, and the preparation of locally adapted learning materials.

Decision-making in lower secondary public schools

(data based on a 1997 WEI survey – see Annex)

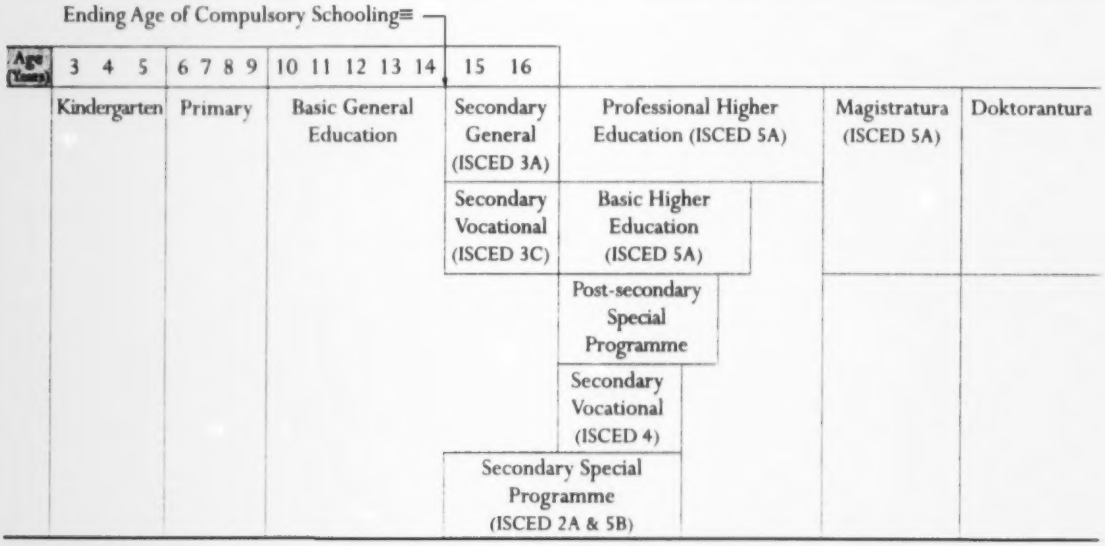
In the Philippines, decision-making over the allocation of resources is shared equally between schools, and provincial and regional governments. Decisions on curriculum development and organisation of instruction, however, are primarily taken at school level (88% of relevant decisions) and those on planning and structures by central government (86%). Responsibility for personnel management decisions is shared between central government (50%), provincial and regional governments (33%), and schools (17%).

Overall, schools are responsible for 39% of decision-making areas, 9% with full autonomy and 29% within a framework set by a higher authority.

RUSSIAN FEDERATION

- Population: 147.3 million
- Projected annual population growth rate, 1997-2015: -0.3%
- GDP per capita (in equivalent US dollars converted using PPPs): $4 370
- Average annual percentage change in GDP per capita, 1985-1997: -0.8%
- Index of income disparity (Gini Index): 48.0

Structure of the Education System



Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Alexander Savelyev (Russian Federation)

Major educational priorities of the Russian government are to widen access to education, to promote the quality of educational provision and to maintain equal access to educational opportunities for girls and women. In some regards, conditions are already favourable, as there is a 98% entry rate for lower secondary education, and female post-secondary graduates outnumber males by a ratio of 1.2 to 1. Demographic trends point to a decreasing proportion of the population being of school age, which would imply a reduced demand for educational services. At the same time, there is an increasing demand for places in tertiary education programmes and the ressources available for education have declined considerably over recent years.

Specific government initiatives include developing educational standards and curricula, revisiting the sharing of responsabilities for the financing of education between the different levels of government, improving financial conditions for teaching staff in schools and tertiary institutions, and improving the qualifications of educational personnel at all levels of education.

Education is intended to play an important role in the social and economic reform of Russian society. This effort comprises the following goals, which are stipulated in the Russian Constitution:

- Transition from a totalitarian state to a state based on democratic principles;
- Transition from a centrally planned to a market economy;
- Creation of a civil society with enduring public institutions; and
- Substantial investment in human capital.

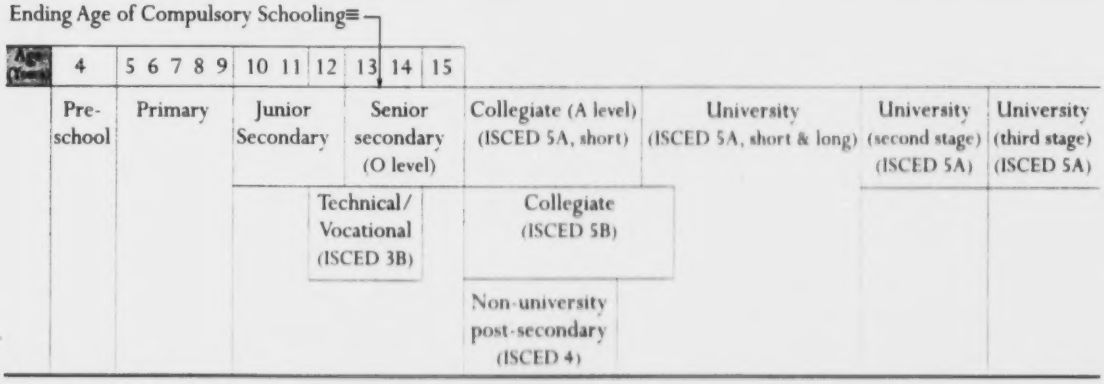
The Russian Federation has inherited an advanced education system from the former Soviet Union. The reform of its scientific and educational programmes includes an effort to retain important components such as rigorous educational standards, existing educational establishments, and supervisory agencies that manage the education system.

A demographic window of opportunity, with a marked decline in the population at primary and lower secondary levels over the next decade, will enable the education system to focus on the quality and equity of educational provision.

SRI LANKA

- Population: 18.6 million
- Projected annual population growth rate, 1997-2015: 1.0%
- GDP per capita (in equivalent US dollars converted using PPPs): $2 490
- Average annual percentage change in GDP, 1985-1997: 9.3%
- Labour force participation rate of population 25-64 years old: 70.2% (men and women); 89.6% (men); 50.0% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/1.2
- Index of income disparity (Gini Index): 30.1

Structure of the Education System



Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Senanayake Upasena (Sri Lanka)

Education policy in Sri Lanka is shifting its attention from increasing enrolment to issues of equity and quality. On the basis of the recommendations of a permanent national education commission appointed by the President, the government has recently established several priority areas and an action plan for addressing them.

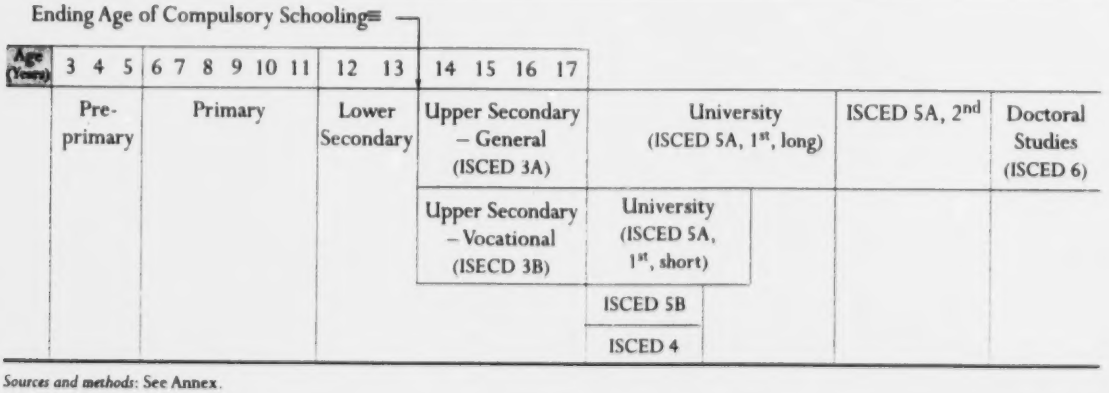
One priority area is the provision of equal and equitable opportunities for participation in education. Despite relatively high levels of participation in education, there are still significant sections of the school-aged population not enrolled in school. The government's action plan calls for the introduction of regulations to make education compulsory for children in the age group 5-14 years, special programmes for children not in school, and a new system of resource allocation. Efforts to improve the quality of educational services involve the development of new curricula, assessments and textbooks, and the improvement of teacher training, both for current teachers and those entering the profession. The government also plans to expand the tertiary sector and to revise the tertiary curriculum.

One challenge facing the education system is the apparent mismatch between the education system and the labour market. Sri Lanka is one of three WEI countries where unemployment increases with level of educational attainment. For example, the unemployment rate for people whose highest level of educational attainment is upper secondary is over twice that for those with only lower secondary education. Partly as a response to this situation, the action plan calls for the expansion of technical and vocational education. Recommended activities include introducing new technology into education, establishing computer centres, and introducing a technical stream at the post-secondary level.

THAILAND

- Population: 60.6 million
- Projected annual population growth rate, 1997-2015: 0.7%
- GDP per capita (in equivalent US dollars converted using PPPs): $6 690
- Average annual percentage change in GDP, 1985-1997: 18.3%
- Labour force participation rate of population 25-64 years old: 86.5% (men and women); 94.9% (men); 78.2% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/2.3
- Total public expenditure as a proportion of GDP: 20.4%
- Proportion of public expenditure on primary-secondary education: 11.5%
- Share of educational decision types made by the central government: 55%
- Index of income disparity (Gini Index): 46.2
- Average years of full-time school expectancy, primary-tertiary: 13.4 years

Structure of the Education System



Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Sumret Prasertsook (Thailand)

As with most WEI countries, levels of educational attainment in Thailand are higher among younger generations. Thailand's graduation rate for lower secondary education is 95%, the highest among WEI countries.

Over 16% of Thai people have completed post-secondary education, the third highest completion rate among the WEI countries for which data are available. Thailand also stands out because of the relatively high percentage of secondary students enrolled in vocational education, 46.8%. Vocational and post-secondary education are seen as vital in developing the highly skilled employees needed to enhance the country's economic potential within the global community. At the same time, there remains a significant need to increase participation in basic levels of education.

In response to this situation, the government has drafted the *National Education Bill*, key provisions of which include:

- The right for all individuals to receive basic education provided by the government for at least 12 years free of charge;
- Nine years of compulsory education, requiring children aged 7-16 to enrol in basic education institutions, with the exception of those who have already completed grade 9;
- Decentralisation of powers in educational administration and management;
- A system of educational quality assurance to ensure improvement of educational quality and standards at all levels;
- More stringent requirements for the licensing of teachers and administrators; and
- Deregulation and liberalisation of tertiary institutions to promote flexibility, academic excellence and academic freedom.

Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

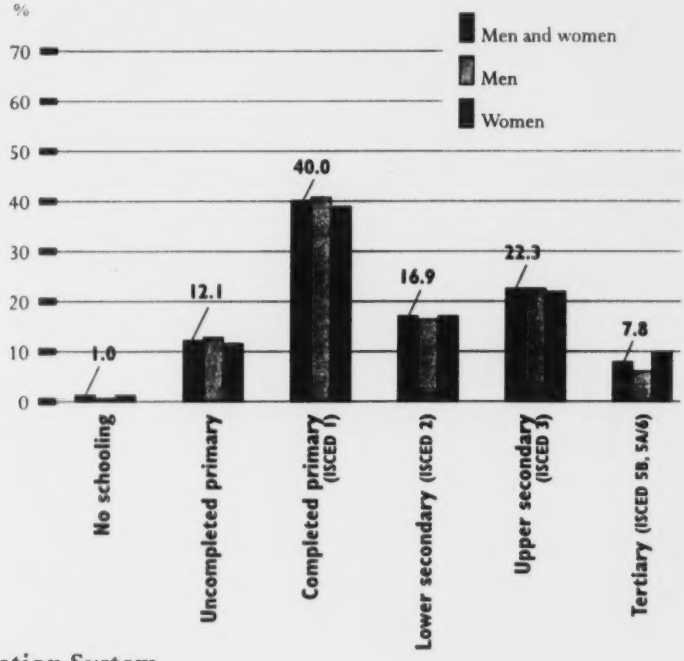
In Thailand, decision-making responsibilities are shared between central government and schools. In the case of personnel management the division is 67% and 33%, respectively. For organisation of instruction, it is 12% and 88%, respectively, and for planning and structures, 57% and 43%. For allocation of resources, it is 83 and 17%, respectively.

Overall, schools are responsible for 45% of decision-making areas, 26% with full autonomy and 19% within a framework set by a higher authority.

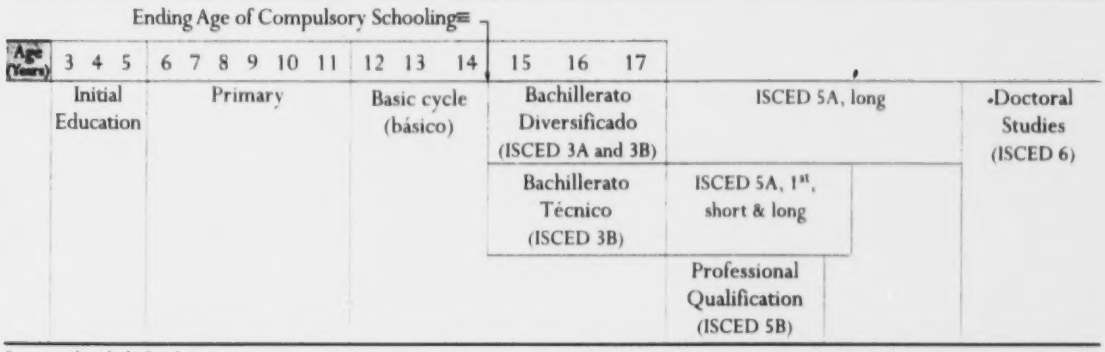
URUGUAY

- Population: 3.2 million
- Projected annual population growth rate, 1997-2015: 0.6%
- GDP per capita (in equivalent US dollars converted using PPPs): $9 200
- Average annual percentage change in GDP per capita, 1985-1997: 9.2%
- Labour force participation rate of population 25-64 years old: 76.1% (men and women); 90.6% (men); 62.5% (women)
- Ratio of school-aged population (5-14 years) to adult employed population (25-64 years): 1/2.0
- Total public expenditure as a proportion of GDP: 22.1%
- Proportion of public expenditure on primary-secondary education: 8.2%
- Share of educational decision types made by the central government: 100
- Average years of full-time school expectancy, primary-tertiary: 13.8 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System


Ending Age of Compulsory Schooling
Age (Years)
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Initial Education
Primary
Basic cycle (básico)
Bachillerato Diversificado (ISCED 3A and 3B)
Bachillerato Técnico (ISCED 3B)
ISCED 5A, long
ISCED 5A, 1st, short & long
Professional Qualification (ISCED 5B)
Doctoral Studies (ISCED 6)

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Mara Perez Torrano (Uruguay)

By comparison with other WEI countries, Uruguay has generally favourable conditions for the further expansion of the education system. It has the highest number of years of primary through tertiary school expectancy (13.8); a relatively high GDP per capita (PPP US$ 9 200, third highest among WEI countries); and a relatively small youth population, which represents less of a strain on public resources. Furthermore, it has one of the most urbanised populations in the world, thus reducing the problems of access and participation associated with high rural populations (see Annex Table 4).

Challenges facing further expansion include high rates of grade repetition, with 8% of students repeating their current grade in primary education and 15% at lower secondary level.

In its programme of educational reform, the National Administration of Public Education (ANEP) is focusing on four areas:

- Equity in education;
- Professionalisation of teaching;
- Quality of educational provision; and
- Institutional management.

In order to enhance equity, ANEP has recognised disadvantaged students and students from families with unsatisfied basic needs as a distinct category, and has set goals for such students in attendance and in provision of services, including school meals. The strategy for increasing the professionalisation of teaching includes providing more professional development and increasing enrolments in teacher training programmes. It should be noted that in comparison with teachers in other WEI countries, while salaries in Uruguay are relatively low, working conditions are quite favourable, with relatively light loads in terms of hours of instruction and class sizes. Strategies for improving the quality of education focus on the provision of educational materials and resources, such as textbooks and computers.

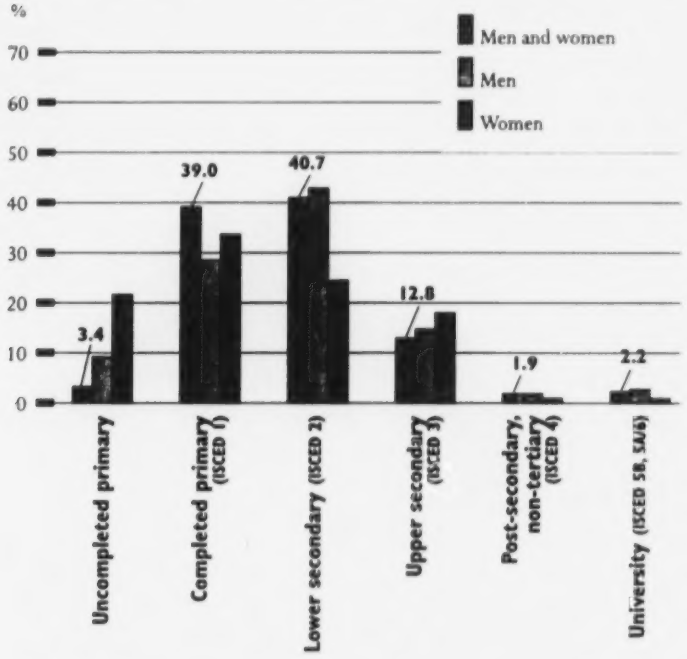
Decision-making in lower secondary public schools
(data based on a 1997 WEI survey – see Annex)

In Uruguay, central government is responsible in all decision-making areas: organisation of instruction, personnel management, planning and structures, and allocation of resources.

ZIMBABWE

- Population: 10.9 million
- Projected annual population growth rate, 1997-2015: 1.3%
- GDP per capita (in equivalent US dollars converted using PPPs): $2 350
- Average annual percentage change in GDP, 1985-1997: 4.3%
- Total public expenditure as a proportion of GDP: 17.1%
- Proportion of public expenditure on primary-secondary education: 16.7%
- Share of educational decision types made by the central government: 55%
- Index of income disparity (Gini Index): 56.8
- Average years of full-time school expectancy, primary-upper secondary: 9.6 years

Proportion of population aged 25-64 by highest level of educational attainment (1997)



Structure of the Education System

Age (Years)	3 4 5	6 7 8	9 10 11 12	13 14	15 16	17 18			
	Pre-school	Primary School	Junior School (ISCED 2 & 3)	Lower Secondary (O-level Form 2) (ISCED2)	Middle Secondary (O-level Form 4) (ISCED 3C)	Upper Secondary (GCE A level) (ISCED 3A)	Higher Education (ISCED 5A, 1st, long)	ISCED 5A, 2nd	ISCED 6
						ISCED 4	ISCED 5A, 1st, short		

Sources and methods: See Annex.

GOVERNMENT PRIORITIES AND RECENT TRENDS

by Farai Choga (Zimbabwe)

Educational participation has increased in Zimbabwe over the past few generations. This is especially true at lower secondary level: 66.9% of 25-34 year-olds have completed lower secondary education, compared with only 18.1% of 55-64 year-olds. At the upper secondary and post-secondary levels, however, growth has not been nearly as great, nor is the relative standing of Zimbabwe among WEI countries high. In addition, females continue to lag behind males in educational attainment, even among younger generations.

One of the government's primary strategies for raising the quality of education is the improvement of teachers' qualifications. Although the government reports that the percentage of qualified teachers is increasing, only 25% of lower secondary school teachers have currently a tertiary-level qualification. To provide more opportunities for teacher training, the government is establishing open university and distance education programmes. The government is also planning to establish more universities to address the overall problem of low post-secondary enrolment and completion. Other government priorities include the decentralisation of decision-making and the computerisation of statistical and financial systems.

There are several recent economic and social changes that will continue to have a significant impact upon education in Zimbabwe over the next 10-20 years. One major challenge has been the devaluation of the Zimbabwean dollar and the economic recession, which has hindered efforts to improve school facilities. It also appears to have caused a movement of students from urban to rural schools, where the costs of education are lower. Additionally, the current AIDS epidemic has required the government to introduce AIDS awareness programmes in schools.

Chapter 2

MANAGING THE GROWTH OF EDUCATIONAL PARTICIPATION

■ INTRODUCTION

The amount of human capital and how it is distributed have important economic and social consequences.

Countries are restructuring their economies and societies in order to respond to technological, social and economic changes, and are seeking to take advantage of these changes. As part of this on-going process, greater weight is being given everywhere to the knowledge and skills embodied in individuals. The value given to such human attributes, together with a continued rise in levels of education, income and wealth, are driving increased demand for learning in its broadest sense. As a result, there is a natural tendency for individuals to seek higher levels of educational attainment and for governments to encourage them to do so.

At the same time, there may be disincentives associated with participation in the education system, such as high cost (through school fees and forgone income from not working) and a lack of rewards in terms of earnings and employment prospects. In the face of tight budgetary controls and keen competition for resources, governments may also not be able fully to meet the demand for education by providing an adequate infrastructure of programmes, institutions, and personnel.

Improving access to education while maintaining and raising the quality of educational provision and outcomes poses a challenge to all countries.

One challenge which modern countries face is how to manage the growth of educational participation and attainment while maintaining and raising the quality of educational provision and outcomes. This challenge is particularly relevant for the countries participating in the UNESCO/OECD World Education Indicators programme (WEI). In comparison with the Member countries of the OECD, not only do they typically have fewer available financial resources, but most are also at a stage of rapid expansion of educational participation and attainment. In addition, many WEI countries are faced with growing numbers of young people of school age so that while larger proportions of the potential student population are seeking higher levels of education, the size of that population is also expanding.

This chapter takes a broad look at the various dimensions of demand for and supply of education, and at the different policies, practices and conditions associated with managing it. Key questions that are addressed include:

- How can the task of managing the growth of education systems be measured, and how do countries compare in terms of the challenge which this task poses for policy development?
- How smoothly do students progress towards completion, moving from one grade and one level to the next? What are the economic incentives associated with different levels of educational completion?
- How do countries differ in the structure of their education systems, and to what extent do these differences influence participation?

The discussion begins by focusing on data on current student participation and levels of educational attainment in the adult population, as they are the most readily available data relevant to demand and supply. Changes in

participation and attainment reflect how countries have responded to and encouraged participation in the education system, and can point to future trends. Attention needs to be given not only to challenges faced in managing the overall expansion of the education system, but also to challenges arising from historical and potential disparities within countries. This chapter therefore moves beyond participation and attainment to examine current patterns of progression and completion and the government policies, educational practices and social conditions that may influence these.

The theme of managing the expansion of educational participation is explored further in Chapter 3, which deals with the financial resources devoted to education – one of a government's most powerful mechanisms for encouraging and responding to demand.

■ PATTERNS OF DEMAND AND THE POTENTIAL TO RESPOND

"School expectancy" captures current patterns of enrolment in a single statistic.

Educational supply and demand are perhaps best reflected in current patterns of enrolment. One way to capture current patterns of enrolment in a single statistic is to calculate the *expected years of schooling under current conditions* (see Figure 2.1 and Annex Table 13). This indicator is obtained by adding the net enrolment rates for each single year of age from age 5 onwards and then dividing by 100. In countries with high enrolment rates over many grade levels, the average years of school expectancy will be high. Lower average years of school expectancy are found typically in countries with low enrolment rates, school systems based on fewer years of schooling, or both.

Among WEI countries, a 5 year-old can expect, on average, 12.3 years of formal education.

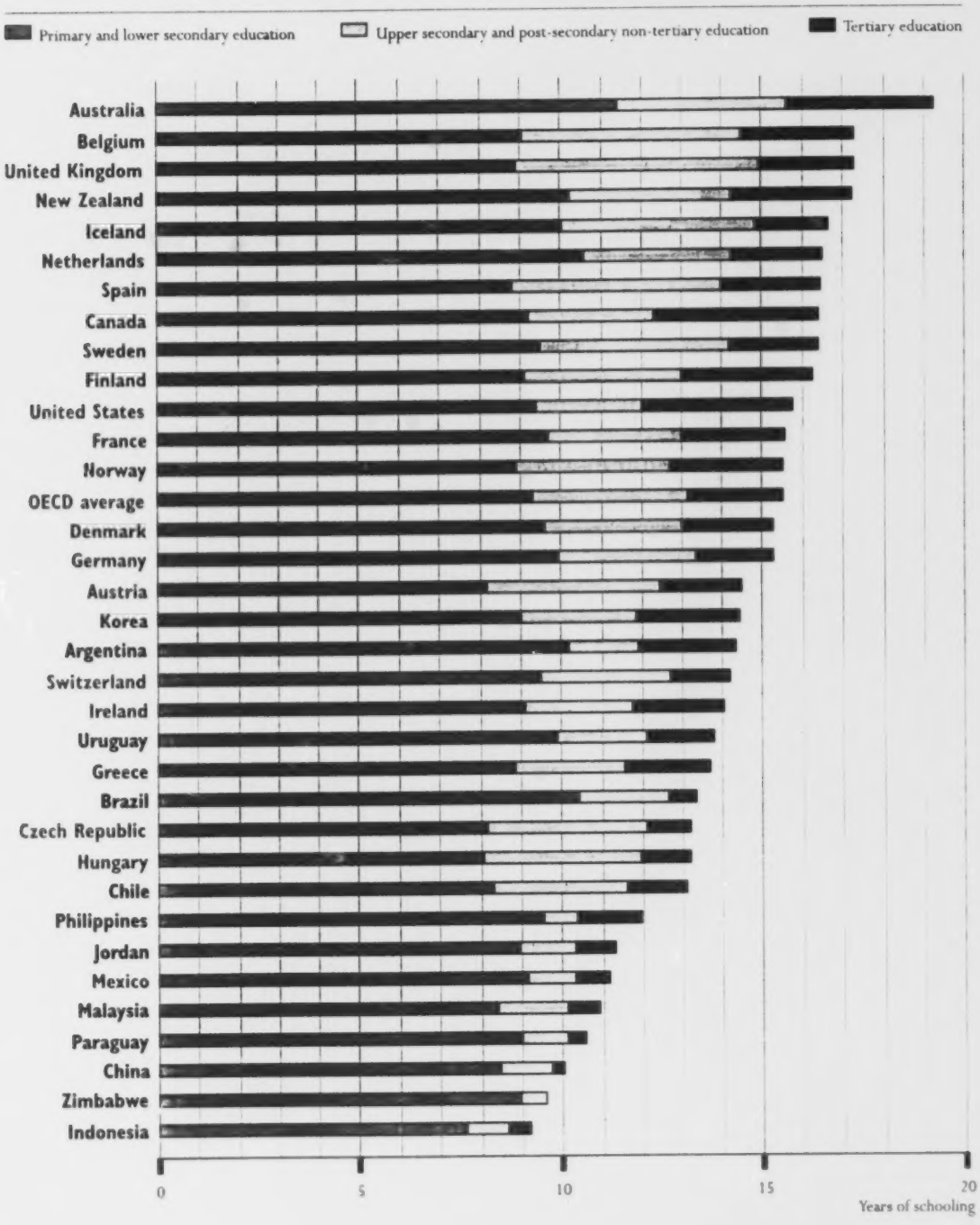
Among the 11 WEI countries for which data are available, the expected years of schooling range from 9.6 years in Indonesia and Zimbabwe to 15.4 years in Argentina. In none of the WEI countries do average years of schooling reach the average of OECD countries, 16.4 years, although there is some overlap between WEI countries and some individual OECD members.

Long school expectancy does not imply that all young persons have access to education, nor does it indicate achievement of specific levels of education.

It is important to recognise that since this measure represents only the number of years in which students are enrolled in the system, the expected years of schooling do not necessarily indicate achievement of a specific level of education, such as "lower secondary" or "eleventh grade". The measure also does not account for differences in the intensity of student participation in education or the quality of educational provision. As will be discussed later in this chapter, repetition of grade levels is more common in some countries than others. In countries where grade repetition is common, a portion of the expected years of schooling may be spent repeating one or more grade levels.

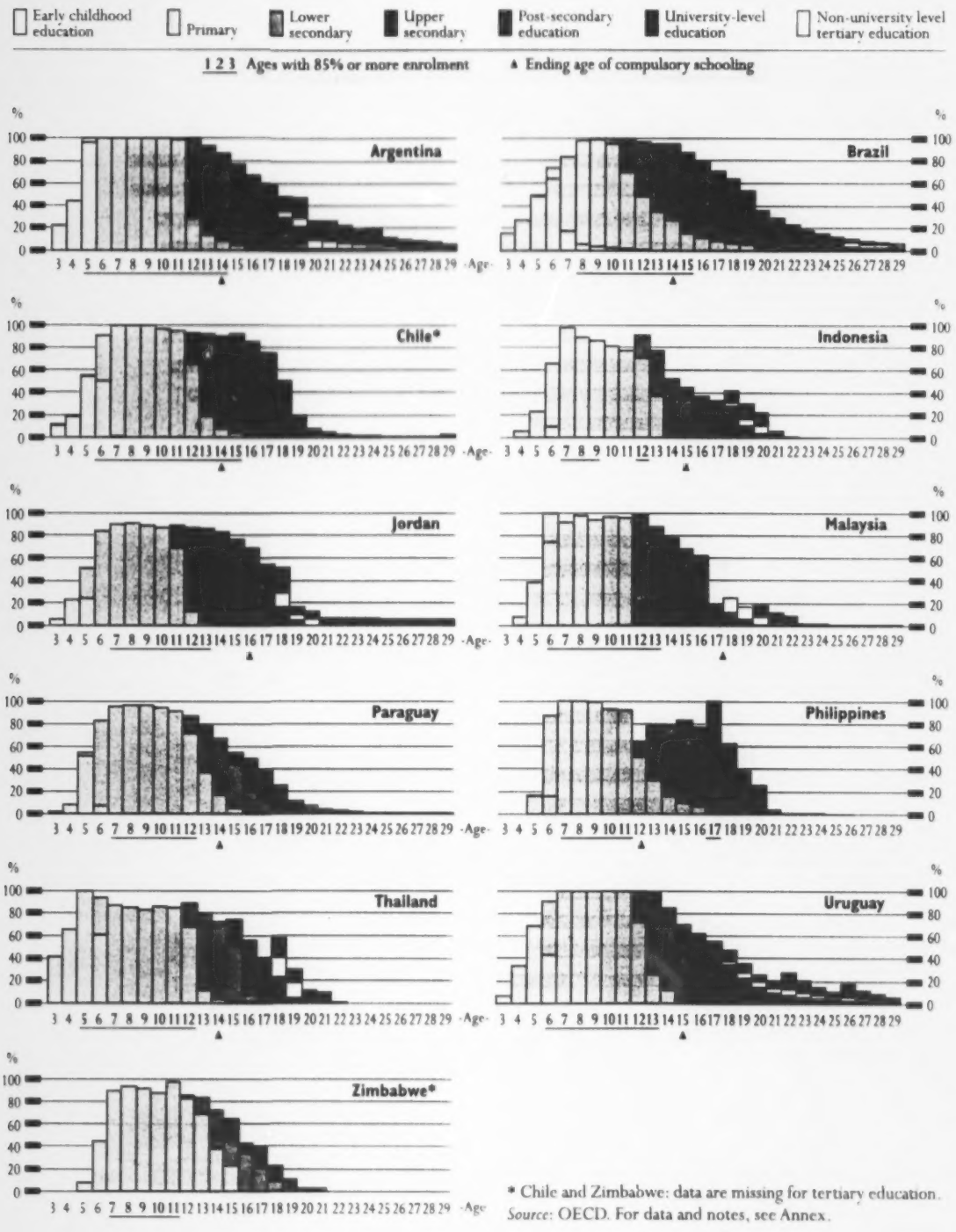
Figure 2.2 provides a more detailed look at enrolment for the populations aged 3-29 years in eleven WEI countries. Each vertical bar represents a single year of age and the total height of each bar represents the percentage of persons

Figure 2.1
Average years of schooling a 5 year-old can expect under current conditions, primary through tertiary levels (WEI: 1997, OECD: 1996)



Source: OECD. For data and notes, see Annex.

Figure 2.2
Net enrolment rates by single year of age and level of education (head counts, 1997)



* Chile and Zimbabwe: data are missing for tertiary education.
Source: OECD. For data and notes, see Annex.

enrolled in the education system at each year of age. The different sections within each bar represent enrolment in different levels of schooling (*e.g.* , primary, lower secondary, etc.). Thus, in most cases, moving from left to right from the younger ages to the older ones, as young children enter the education system at varying ages, the heights of the bars rise. Then follows a period of several years where most young people are enrolled in the education system, indicated by a plateau in the height of the bars. As students begin to leave the education system during the teenage years, the heights of the bars decrease. Within some age ranges, the bars have only one section, indicating that all students are enrolled in the same educational level. In other cases, typically surrounding the ages associated with transition from one level to the next, the bars divide into two or more sections, indicating that students of the same age are enrolled in different levels of education.

In some countries there is near universal participation at a wide range of ages while in others significant proportions of the population are left out in every age group.

Although this general pattern holds true in most cases, there are three important aspects in which patterns differ from country to country. First is the rate of participation - the height of the bars. In several countries, most notably Argentina and Uruguay, there appears to be near universal participation at a wide range of ages. In other countries there appear to be significant proportions of the population in every age group – ten per cent or more – not enrolled in the system.

Countries also differ in the range of ages during which young people are typically enrolled in the education system. In each individual chart in Figure 2.2, the ages at which at least 85 per cent of the population is enrolled in school are underlined. Across the WEI countries, the range of these ages varies in length from three years in Indonesia to ten years in Argentina and Chile.

Most WEI countries have still to close considerable gaps to reach their goal of universal compulsory education.

If each country's stated ending age for compulsory education is used as an indication of a goal for participation (also indicated in Figure 2.2), most WEI countries still have considerable gaps to close before reaching these goals. Only Argentina, Brazil and Chile have participation rates greater than 75 per cent for the final year of compulsory schooling.

For some WEI countries, patterns of educational participation signal weaknesses in the internal efficiency of education systems.

The third way in which the patterns differ from country to country is whether changes in participation in the system and in different levels of schooling occur gradually over several ages or sharply at one particular age. Students of the same age participating in different levels of education can be found in countries where completion and advancement are based on attainment of a certain level of skill, so that some students complete grades and levels earlier than others who may repeat one or more years of schooling. However, a wide age range among students leaving a certain level of education can, in particular at lower levels, also indicate weaknesses in the internal efficiency of the education system. In Argentina and Brazil, for example, the gradual downward slopes across the bars in Figure 2.2 indicate that students enter and leave secondary education over a wide range of ages, which may pose a challenge to curriculum development and teaching methods, and suggests that in these countries more may need to be done to increase the internal efficiency of the education system.

At the other end of the spectrum are Malaysia and Jordan, where the sharp changes in participation indicate that there are clearly defined ages at which students change from one level of schooling to the next, or leave the system.

All of these differences reflect the interrelationship between education policies, social conditions and participation in the education system. For example, high levels of participation for a number of years may be the result of favourable economic conditions, cultural traditions, or government policies that require or encourage participation. Low levels of participation may result from unfavourable economic conditions or from government policies that restrict participation in a given level of education, either to those of a particular age group or to those meeting established standards of achievement.

Rising participation

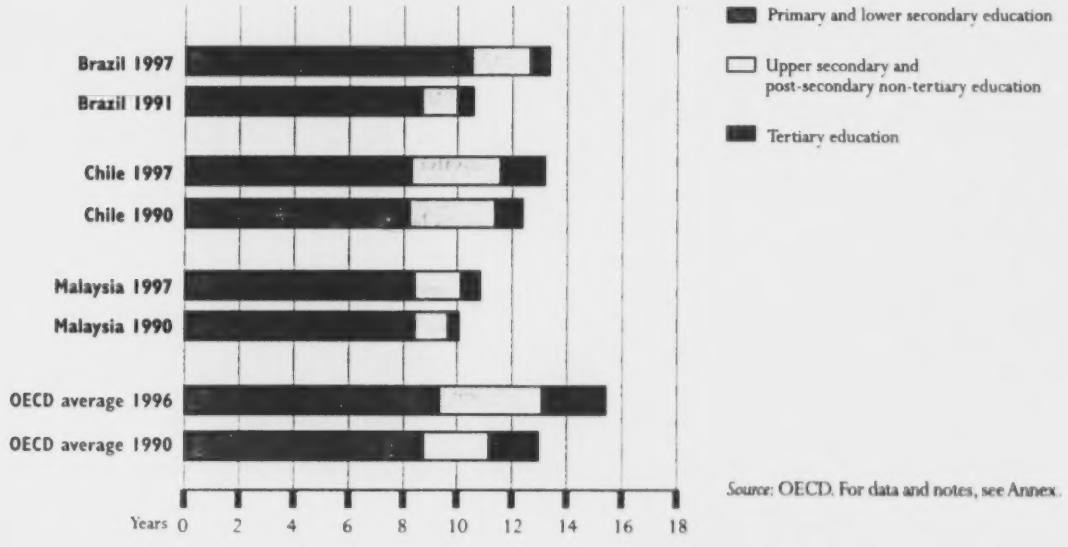
Changing labour market and social conditions place greater weight on knowledge and skills embodied in individuals.

In recent decades, changing labour market and social conditions have led to a clear demand for more education. Upper secondary and tertiary-level qualifications, which were once designed for an elite minority of the workforce, are becoming important for an increasing proportion of jobs. How rapidly have WEI countries adapted their education systems to meet this new demand?

Some countries have responded to rising demand for education with marked increases in school expectancy.

Over the period 1990/91 to 1997, the expected years of schooling increased considerably in some WEI countries (see Figure 2.3). In Brazil, for example, the expected years of primary and lower secondary schooling increased from 8.7 to 10.5 years, while expected years of upper secondary schooling increased from 1.3 to 2.2 years. The combined increase in expected years of primary and secondary schooling in Brazil from 10 to 12.7 years is

Figure 2.3
Changes in the average years of schooling a 5 year-old can expect under current conditions



Source: OECD. For data and notes, see Annex.

larger than the average change in the 18 OECD countries for which data are available (from 13 to 15.4 years). Whereas in Brazil the increase in school expectancy took place chiefly at the primary and lower secondary level of education, the increase in Chile and Malaysia was mainly driven by higher participation rates at the upper secondary and tertiary levels.

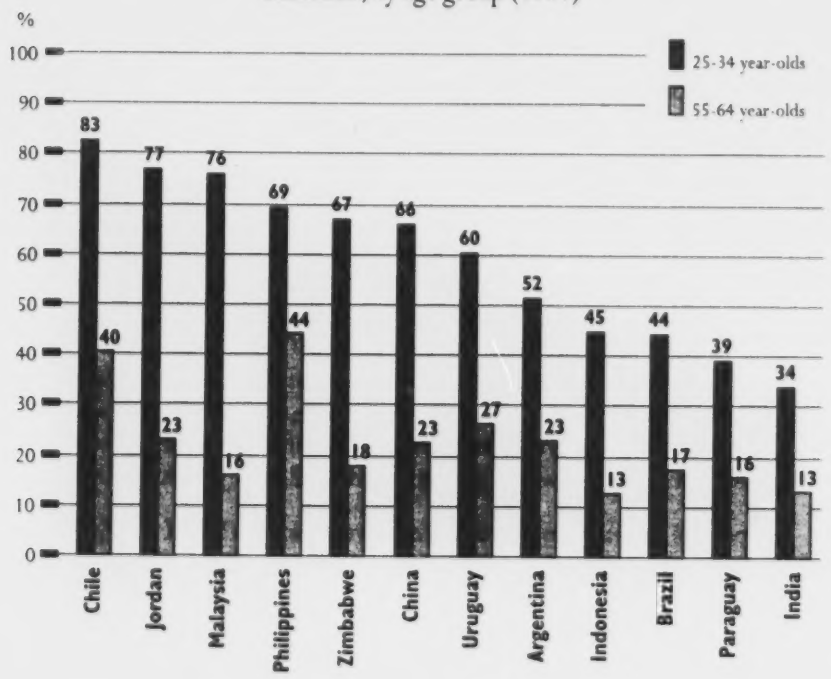
Differences in educational attainment between younger and older people offer an indirect measure of the evolution of the stock of human capital.

It is also possible to look at the growth of participation in the education system over a longer period of time by examining differences in educational attainment in the adult population. Differences in educational attainment between age groups in the current population reflect the different rates of participation during the time when these older generations were of school-going age. Figures 2.4 and 2.5 show the percentages of the 25-34 year-old and the 55-64 year-old age groups that have completed various levels of education.

In all countries, younger adults have generally completed more education than older adults, indicating improvements in access to education...

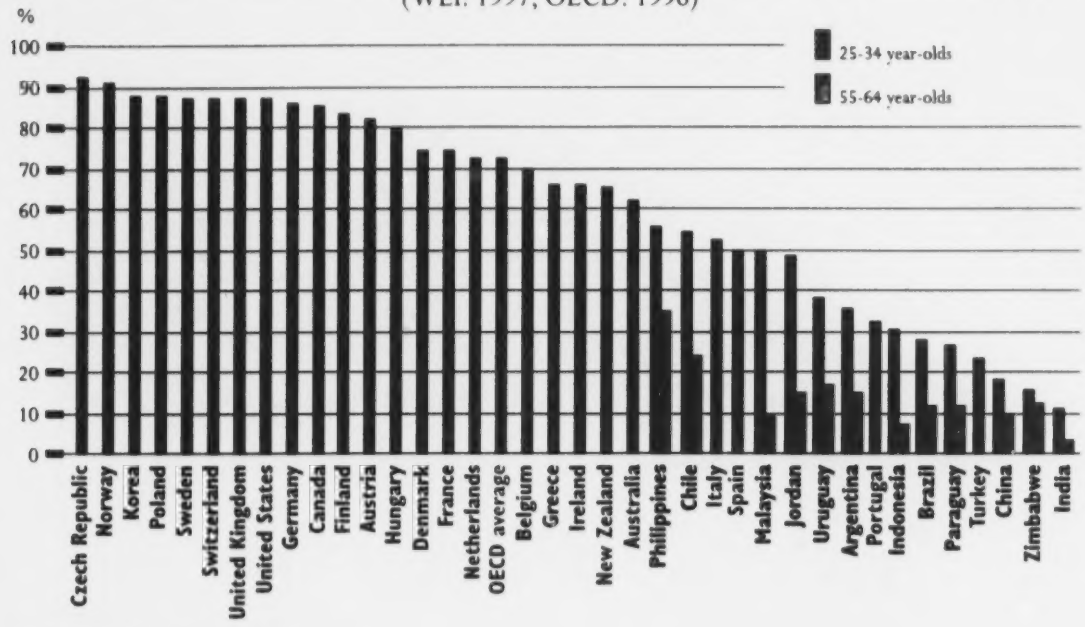
In all cases, the attainment levels of 25-34 year-olds are considerably higher than those of 55-64 year-olds, indicating that substantial progress has been made in increasing access to education in virtually all WEI countries. Younger adults have generally completed more education than older adults because they were educated at a time when systems were designed for the many rather than the few. The differentials illustrated in Figures 2.4 and 2.5 also give

Figure 2.4
Percentage of the population who have completed at least lower secondary education, by age group (1997)



Source: OECD. For data and notes, see Annex.

Figure 2.5
Percentage of the population who have completed at least upper secondary education, by age group
(WEI: 1997, OECD: 1996)



Source: OECD. For data and notes, see Annex.

some indication of the likely order of increase in the attainment level of the whole population over the decades to come (even assuming no further expansion), since younger cohorts with higher attainment will progressively replace less educated older groups.

... but the increases are far more pronounced in some countries than in others ...

These increases are, however, more pronounced in some countries than in others. In lower secondary attainment, Malaysia has the greatest difference between the 55-64 year-old age group (16 per cent) and the 25-34 year-old age group (76 per cent), an average growth of roughly two per cent per year. Chile, China, Jordan and Zimbabwe also have relatively large differences between these two age groups at the lower secondary level. Malaysia has, in addition, the greatest change in upper secondary attainment, a difference of over 40 percentage points between the two age groups. Similar or larger differences can be found in several OECD countries, including Finland, Greece, Hungary, Korea, Poland and Spain (see Annex Table 7). Other WEI countries with relatively large differences in upper secondary attainment between the two age groups include Chile and Jordan.

...and despite progress, fewer than half of all 25-34 year-olds have completed upper secondary education in most WEI countries.

Despite the growth found in all WEI countries, less than half of the 25-34 year-old population in most WEI countries has completed upper secondary education, indicating that substantial further progress is needed to provide all young people with the qualifications needed in modern economies and societies.

The case of Zimbabwe highlights the challenges countries can face in managing the growth of educational participation. After independence (1980),

there was a significant increase in primary and lower secondary enrolment, which is reflected in Figure 2.4. However, while many local schools offer educational programmes up to the lower secondary level, there still remain relatively few upper secondary schools, colleges, and universities. The expansion of the primary and lower secondary level in Zimbabwe was thus not reflected in an expansion of upper secondary and tertiary provision for the new potential pool of students. Growth in completion of the upper secondary level remained therefore very modest. Further expansion of educational participation will require major investments in the infrastructure of the education system.

Participation in tertiary education in WEI countries has increased as well, although tertiary attainment is still the exception rather than the rule. WEI countries with both relatively high levels of attainment in the 25-34 year-old population and large differences in attainment between the 25-34 and the 55-64 year-old population include the Philippines and Jordan (see Table 8).

While upper secondary attainment is converging among OECD countries, the attainment gap between some of the WEI countries is likely to widen further if current patterns of participation remain unchanged.

It is noteworthy that while OECD countries which currently have low levels of attainment are expected to move closer to those with high attainment levels (Greece, Italy, Korea, Portugal, Spain and Turkey are among the OECD countries with the highest differences in attainment between young and old age cohorts), the upper secondary attainment gap between some of the WEI countries is likely to widen further if current patterns remain unchanged. For example, Chile, Jordan and Malaysia show comparatively high rates of upper secondary attainment as well as large gains over successive generations while China, India and Zimbabwe lag considerably behind, both in terms of the upper secondary attainment levels achieved and in terms of attainment differences between younger and older generations.

A variety of economic, demographic and social factors contribute to the larger disparities in levels of educational attainment in WEI countries.

Many factors contribute to the marked differences in attainment patterns between OECD and WEI countries. When educational levels are low, which is characteristic of countries that are less economically developed, there is a low dispersion of attainment levels, as most people have had little education. There are few educational differences between generations and within each generation: all individuals tend to have similar levels of education. As economies develop, educational progress is not uniform. Levels of education initially rise in some limited groups as labour-market demand for high-level skills only gradually emerges. This causes educational differences to appear between the older and younger generations and within each generation, as the education system reaches only a fraction of the school-age population. As a result, during the initial stages of the development process, disparities in levels of educational attainment tend to grow. The disparities continue to rise, but the rate of increase decelerates as a higher proportion of the population achieves more advanced levels of education – a state reached by many WEI countries up to the lower secondary level and by many OECD countries up to the upper secondary level.

In many WEI countries, generational differences in attainment will remain a concern for a long time.

The disparity in education between generations normally continues to rise in the long term as access to initial education improves, while there remain fewer opportunities for older generations to acquire formal qualifications. At the same time, the disparity within generations begins to fall as a result of broader basic education coverage. Chile, China, Malaysia and the Philippines are examples of this trend among WEI countries, as far as completion up to primary and lower secondary is concerned. Total dispersion (between and within generations) tends to decline only gradually because the initial education system of many countries only reaches younger age groups. The Czech Republic, Germany, Switzerland and the United States are examples of OECD countries in which more than 70 per cent of 55-64 year-olds have completed upper secondary education, leaving limited scope for further expansion at this level.

Extending opportunities for continuing education and training may help enhancing skill levels in the workforce and decreasing disparities in attainment levels.

In many WEI countries, however, generational differences in educational attainment will remain a concern for a long time. In a rapidly changing world, less-educated older groups can face serious economic and social difficulties. Extending opportunities for continuing education and training beyond initial schooling, including training at the workplace, may be an effective means whereby many WEI countries can enhance the skill levels of the population and workforce and can decrease disparities in attainment levels within the population.

Since the WEI database does not contain financial data from years prior to 1996, it is not possible to examine how educational funding in WEI countries has changed along with changes in participation. However, the implications of increased participation for education budgets are clear: an increased demand for resources.

WEI countries unable to match rising participation with more resources will face difficult choices.

WEI countries unable to match increases in participation with increases in resources will be faced with difficult choices about how to adjust the educational services provided so as to meet the needs of a larger student population. Thus, while trends of increases in participation should be seen as indicators of a healthy system, they also point to potential future challenges in the provision of appropriate levels of educational services. A study undertaken in Tamil Nadu State in India shows clearly the negative impact of enrolment expansion on school conditions and learning when expansion is not accompanied by the necessary financial resources (see box).

Demographic patterns

An increase in the "client base" for education adds to the challenge of raising participation and attainment.

In addition to rising rates of participation and attainment, an increase in the numbers of children and young adults in the population – the "client base" for education – can also signal increases in demand for education. In general, assuming similar rates of participation, countries with rising numbers of young people face greater pressure to allocate more resources to education and training than those in which the youth population is rising less sharply, is remaining the same, or is declining.

Many WEI countries will experience a unique window of opportunity during the demographic transition that is already having an impact on the size

Is there a Trade-off between Quantity and Quality as Enrolments Increase?

An independent study conducted by experts from two universities and the World Bank posed this question and attempted to answer it using data from schools in Tamil Nadu State in India. The study explored the negative impact of enrolment expansion on school conditions and learning using a cross-district time series analysis. In the words of the authors of the study:

> "Developing countries have been quite successful at expanding enrolments in education, especially at the lower levels. But for any given level of efficiency, increased enrolments require increased resources, in order to maintain quality. If these resources are not forthcoming, the increase in educational quantity may come at the expense of quality" (Duraisamy *et al.*, 1990, World Bank).

The authors of the study report that while enrolments at the primary and middle school levels expanded by 35 per cent between 1977 and 1992, the number of teachers increased by only 4 per cent in the same period. Thus, the student-teacher ratio rose from 36:1 in 1977 to 47:1 in 1992. At the upper secondary level, enrolments rose by 139 per cent over the same period of time while the number of teachers grew by only 44 per cent. The rising student/teaching-staff ratios were exacerbated by a rate of enrolment growth that varied between school districts and a teacher allocation that did not fully respond to these differences in enrolment growth. In some school districts, classes of 60 to 100 students were common.

One reason for the slow growth in the number of teachers, according to the authors, was that the salary scale for teachers was far above the market rate (independent private school teachers were paid much less), and that cost-of-living adjustments were built into the salary scale. Thus, most of the increase in public funding went on maintaining a fairly constant number of teachers in the form of salary increases, rather than on paying for more teachers.

The authors compared student-teacher ratios and other "input" factors with student outcomes in examination pass rates at the end of the relevant level of education. They found that growth in student-teacher ratios had a significant negative effect on pass rates. They found a significant positive effect on pass rates in school districts with larger proportions of government-funded private schools, where students had a greater choice of schools.

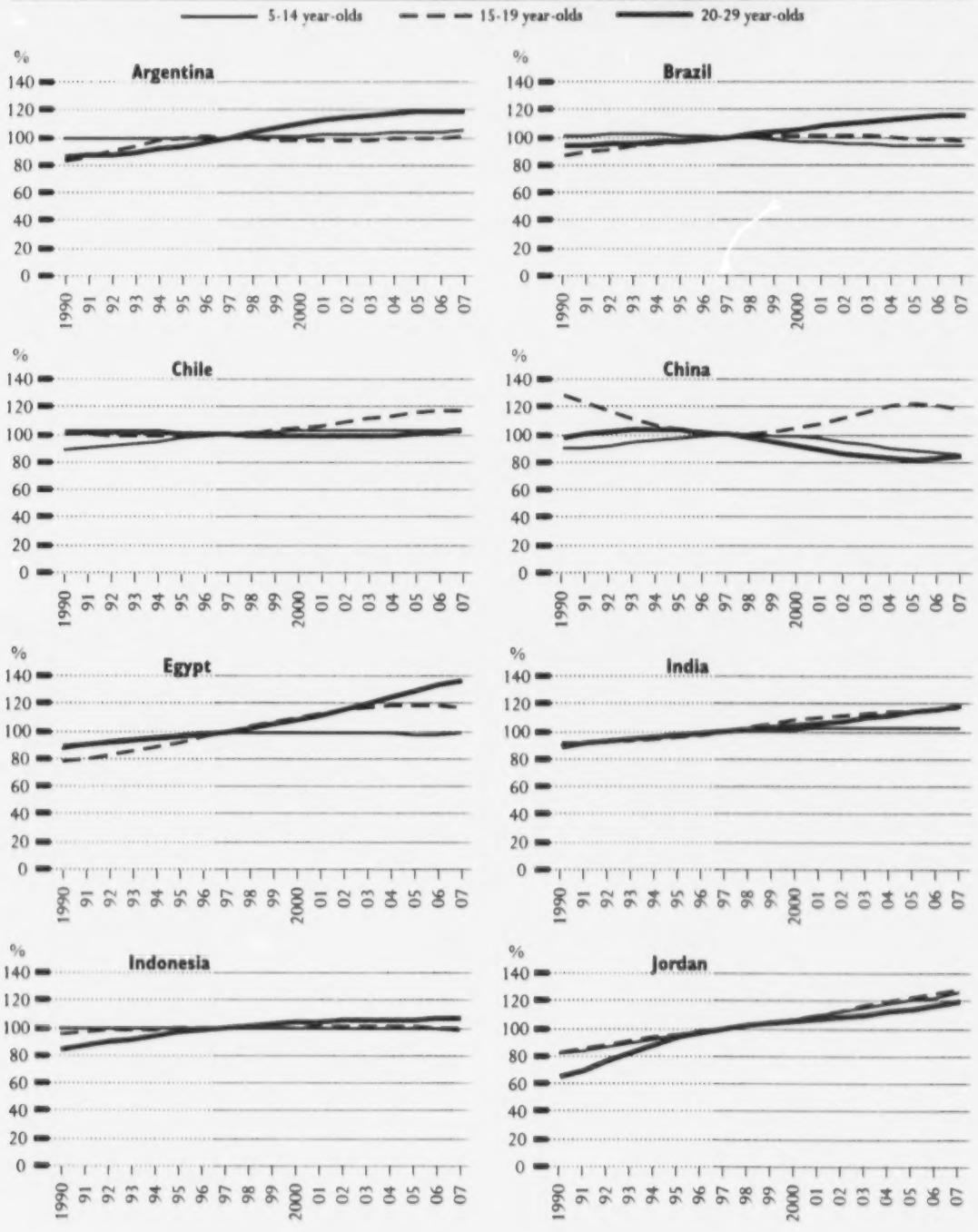
of the cohorts of primary-school age. As fertility is falling in most WEI countries, the proportion of people of working age is rising faster than the number of children. The decline in fertility rates also means that more adult women will be working. This may imply fewer students per worker, making it easier to finance a better education system. But while this trend will persist for several decades, eventually it will be overtaken by the rise in the proportion of elderly people relative to the working-age population. However, in many countries over the next two decades, the declining ratio of children to active workers will be more important financially than the rising ratio of retired persons to workers.

Many WEI countries will have a window of opportunity caused by demographic transition that will allow a shift in policy from expanding enrolments to improving educational quality.

Among WEI countries, the greatest changes in numbers of potential students are likely to occur in the near future in the age groups most commonly associated with upper secondary and tertiary education, the 15-19 and 20-29 year-old age groups. Figure 2.6 and Annex Table 1 present changes in the size of three youth populations since 1990 (relative to 1997 population sizes), with projections up to the year 2007. Of the 16 WEI participants, eight show

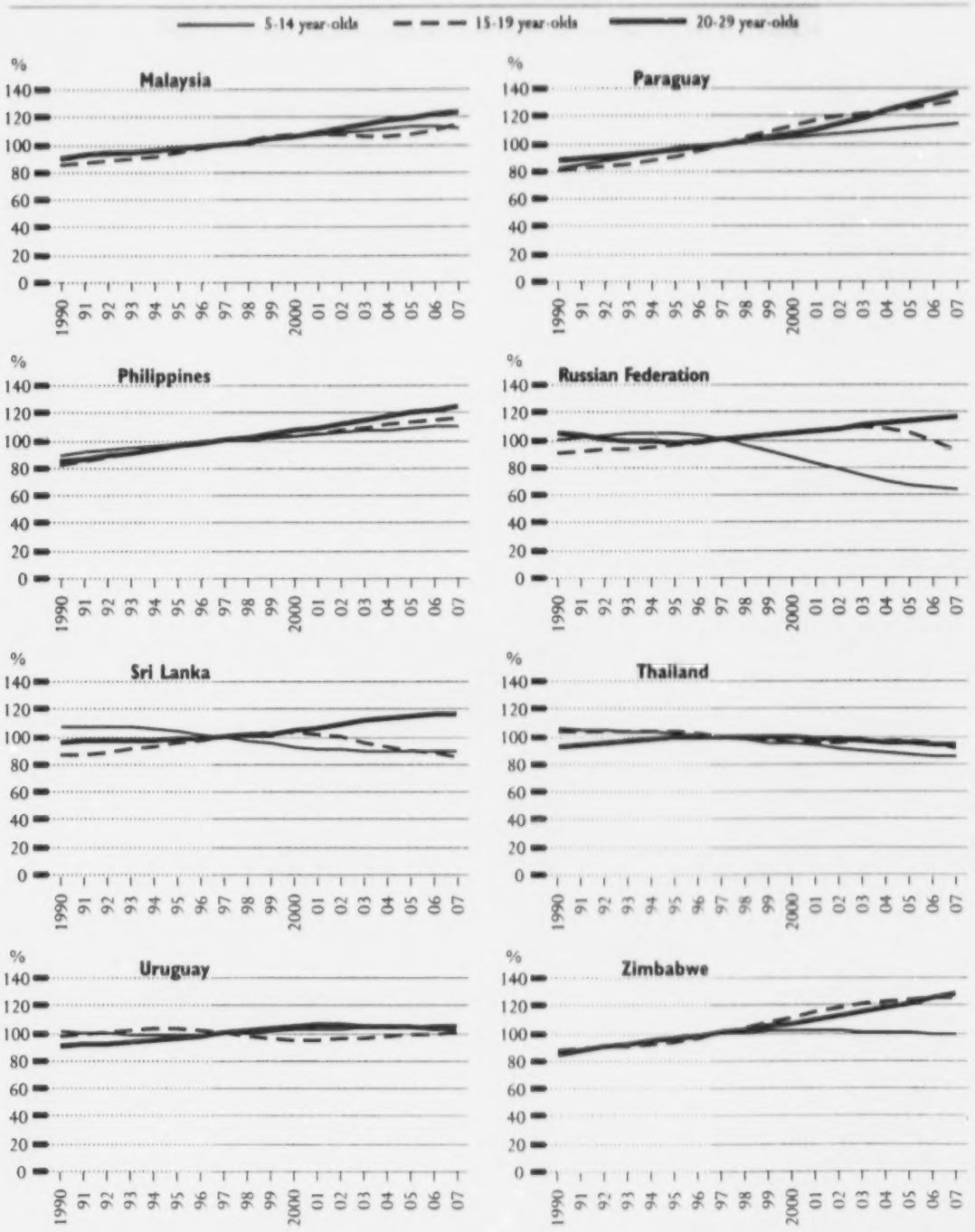
Over the next decade, the greatest increase in the numbers of potential students will occur at the upper secondary and tertiary levels ...

Figure 2.6
Change in the size of the youth population since 1990 and expected change until 2007 (1997 = 100)



Source: OECD. For data and notes, see Annex.

Figure 2.6 *(continued)*
Change in the size of the youth population since 1990 and expected change until 2007 (1997 = 100)



Source: OECD. For data and notes, see Annex.

a projected increase in the 5-14 year-old population, but only four show increases of more than 10 per cent (in relation to the 1997 population).

... in more than half of WEI countries, the age group 15-19 years will increase by between 16 and 31% over the period 1997-2007.

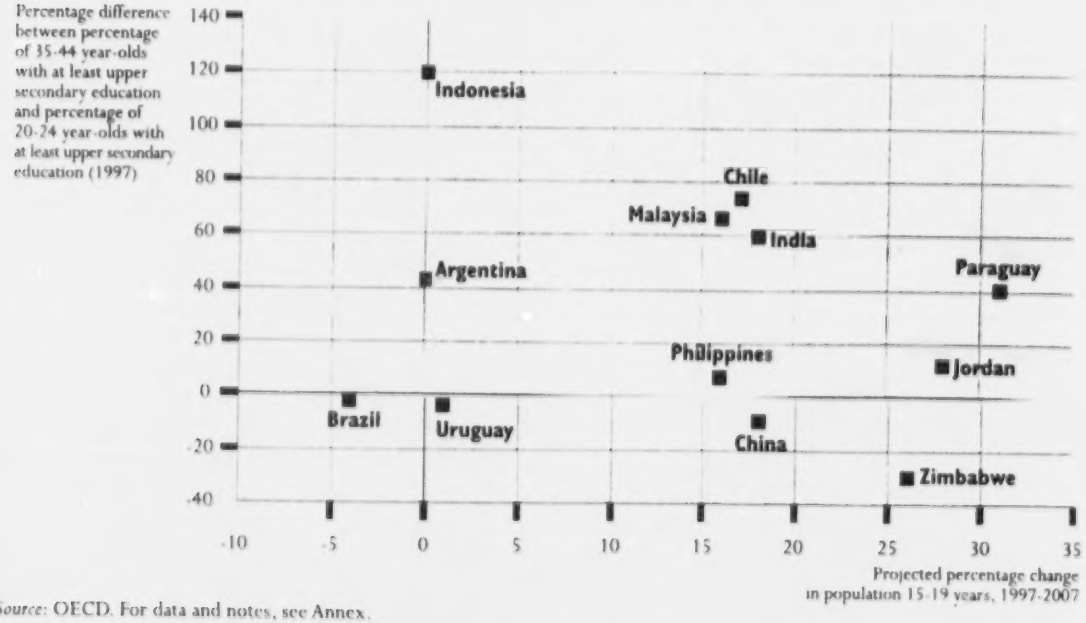
In comparison, projected increases for the 15-19 and 20-29 year-old age groups are more numerous and more substantial. Ten countries have projected increases in the 15-19 year-old age group and 14 have projected increases for the 20-29 year-old age group. The country with the highest projected increases at those levels is Paraguay, with a 31 per cent projected increase in the 15-19 year-old age group and, alongside with Egypt, a 38 per cent projected increase in the 20-29 year-old age group between 1997 and 2007.

When allied with the rising upper-secondary attainment levels of its population (see Figure 2.7), the potential future demand for education in Paraguay appears particularly large. It is expecting a 31 per cent increase in the size of its 15-19 year-old population at the same time that upper secondary attainment has been rising. Chile, India and Malaysia face similar situations, with even steeper rises in attainment even though projected changes in the 15-19 year-old population are lower than in Paraguay.

Countries with higher proportions of young people of school age tend to have fewer expected years of schooling.

It is difficult to quantify the strain placed by a large youth population on a government's ability to provide educational services, since many other factors influence provision of services. However, one might expect there to be a negative correlation between the two, meaning that governments may be less able to provide adequate educational opportunities if the youth population is

Figure 2.7
Projected change in the 15-19 year-old population and difference in upper secondary level educational attainment between 35-44 and 20-24 year-olds



Source: OECD. For data and notes, see Annex.

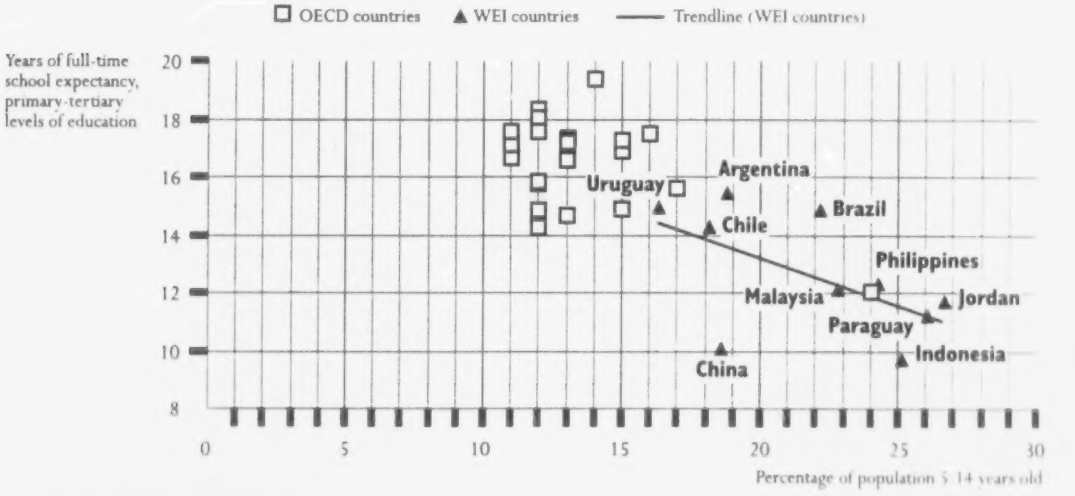
large. The relationship can be seen if the size of the school-age population is compared with the expected years of schooling (see Figure 2.8). Data from the 10 WEI countries for which such data are available support the hypothesis that countries with higher proportions of young people of school age tend to have fewer expected years of schooling. It is noteworthy, however, that the relationship levels off in countries with higher levels of national income, as can be seen when the OECD countries are added into the picture. Even if participation remains unaffected, the challenge of educating greater numbers of students may have a negative impact on the quality of the services provided.

Challenges of addressing disparities related to gender and income

An important aspect of managing the growth of education systems is ensuring that all sections of the population benefit and that disparities are reduced.

One important aspect of managing the growth of an education system is ensuring that it benefits all sections of the population and that disparities between groups are reduced. Within individual countries, certain groups have tended to attend school at a higher rate, to attend for longer periods of time and to receive higher-level qualifications than others. Disparities have often been based on gender, income level, and area of residence (*e.g.* , urban or rural). As overall participation and attainment levels rise, it cannot always be assumed that all groups are benefiting equally or that historical gaps are closing. Even in cases where conditions for all groups are improving, it is possible for disparities to become magnified, as those who have traditionally benefited more than others continue to benefit disproportionately from any improvements. Thus it is important to look beyond overall patterns of growth in order to examine conditions within individual countries that may result in

Figure 2.8
Relative size of school-age population and years of school expectancy (WEI: 1997, OECD: 1996)



Source: OECD. For data and notes, see Annex.

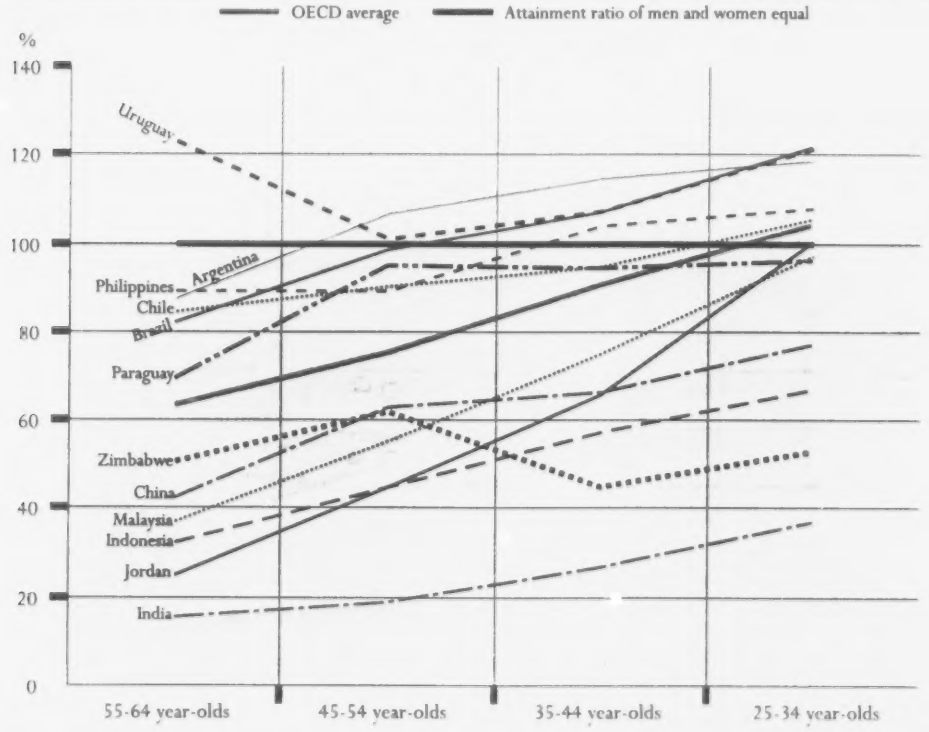
disparities in participation and attainment, and, where data are available, to examine any evidence of such disparities. This type of analysis is useful whenever governments formulate policies to address disparities.

Gender differences in attainment

A significant gap between the educational levels of older men and women indicates under-investment in human capital affecting a sizeable proportion of the population in previous generations ...

The distribution of human capital between the genders is of considerable policy interest. A significant gap between the educational levels of men and women is an indication of under-investment in human capital affecting a sizeable proportion of the population. The evidence shows that there has indeed been under-investment in women in the past, but that this is not generally the case today, at least in terms of the quantity of initial education available to young people (although this does not mean that there is an equal investment in men and women in other respects). In the oldest age group (55-64 years) – whose members were of school age between 40 and 60 years ago – fewer women than men have upper secondary education or higher in all countries represented (see Figure 2.9 and Annex Table 9). In some countries, such as India, Indonesia and Jordan, the differences are great: the upper secondary attainment rate of 55-64 year-old women is 36 per cent that of men in

Figure 2.9
Upper secondary attainment ratio of women compared to that of men, by age group (1997)



Source: OECD. For data and notes, see Annex.

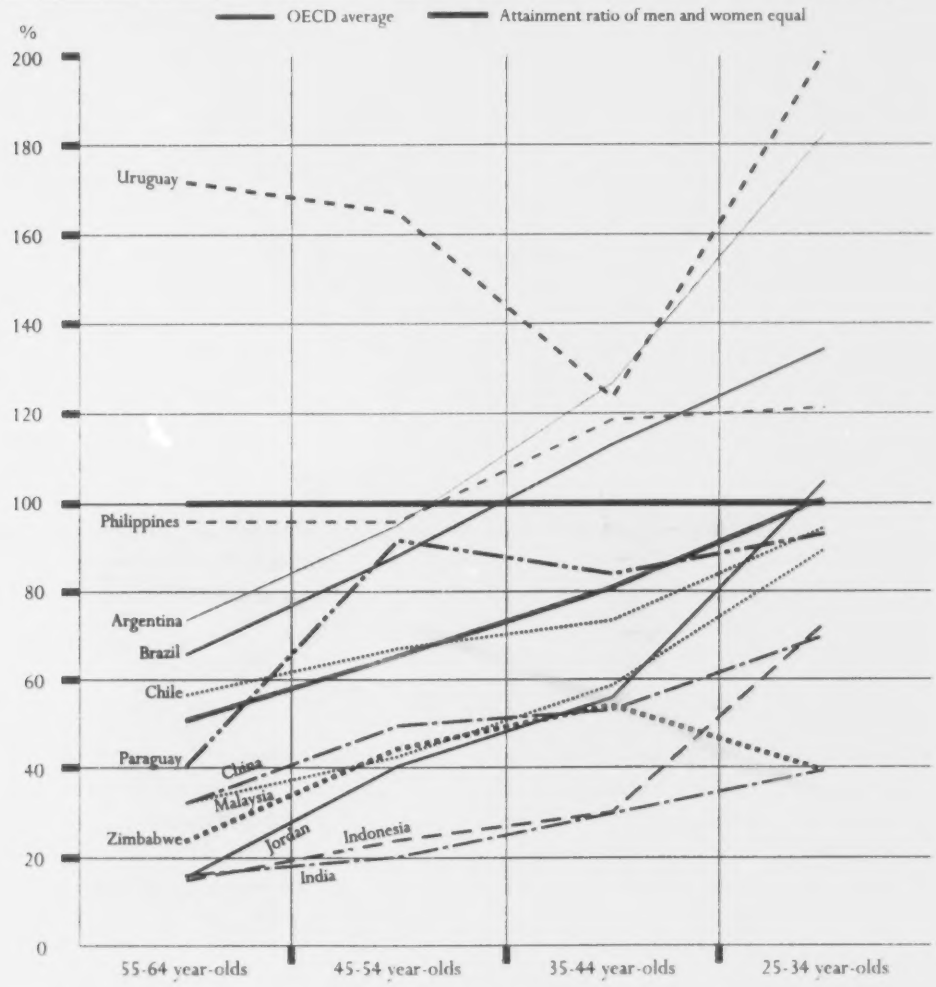
Indonesia, 25 per cent in Jordan, and 15 per cent in India. In other countries, namely those in Latin America, the differences are smaller.

... but in almost all WEI countries, gender gaps in attainment are closing across successive younger generations and are sometimes being reversed.

However, in all countries, with the exception of Zimbabwe, differences are diminishing across successive younger generations, and are even being reversed in some cases. In Jordan, for example, the large gender gap in upper secondary attainment observed among the 55-64 year-old age group has essentially been closed among the 25-34 year-old age group, with the upper secondary attainment rates for men and women being equal.

Similar cross-generational patterns in attainment by gender can be found in tertiary attainment data (see Figure 2.10). In both the 55-64 and

Figure 2.10
Tertiary attainment ratio of women, compared to that of men, by age group (1997)



Source: OECD. For data and notes, see Annex.

45-54 year-old age groups, the tertiary attainment rate of men exceeds that of women in all countries. In the 25-34 year-old age group, however, the tertiary attainment rate of women equals or exceeds that of men in five countries.

These trends indicate improvements in the educational opportunities available to women, and continue to be evident in today's graduation patterns.

These trends are indicative of improvements made in the educational opportunities available to women over the past few decades. They appear to continue today, as current data show female graduates outnumbering male graduates in many WEI countries at different levels of education (see Annex Tables 17, 18 and 19). Female graduates outnumber males in five out of nine countries at lower secondary level, in five out of seven countries at upper secondary level, and in six out of eight countries at tertiary level (see Table 20).

The improvements in equality between the genders in access to and participation in education can be expected to have an impact on economic and social development. As women become more educated, they tend to have fewer children, participate more in the labour market and seek more education for their children. More education also means better access to those types of employment that offer higher wages and more security.

Although gender gaps in attainment have closed in many WEI countries, they still exist in some.

Although gender gaps in attainment appear to have closed in many WEI countries, it is important to note that they still exist in some. For example, in the 25-34 year-old age group, female upper secondary and tertiary attainment rates are still less than 80 per cent of those of males in China (77 per cent for upper secondary, 70 per cent for tertiary), India (37 and 39 per cent), and Zimbabwe (53 and 39 per cent) (see Annex Table 9).

In these cases of persistent gender gaps, there are often policies and programmes in place intended specifically to increase the participation of women in the education system. For example, in China, the *Spring Buds Programme*, sponsored by the All-China Women's Federation in collaboration with the Children's Foundation of China, aims to help girls from poor families to attend school, and has helped approximately 750 000 out-of-school girls to attend or return to school. Further efforts are, however, needed to achieve gender equality in educational attainment.

Income disparities

While gender disparities become less significant, disparities in the income levels of students' families hinder the equitable distribution of educational opportunities.

Although disparities in educational attainment associated with gender appear to be diminishing, differences in participation and attainment resulting from disparities in the income levels of students' families remain significant in many countries. Generally speaking, in the absence of targeted policies and interventions, children from lower income backgrounds will be less able to afford the direct and indirect costs of school attendance, will face greater pressure to leave school early in order to work, and may experience a lower quality of education than students from wealthier backgrounds.

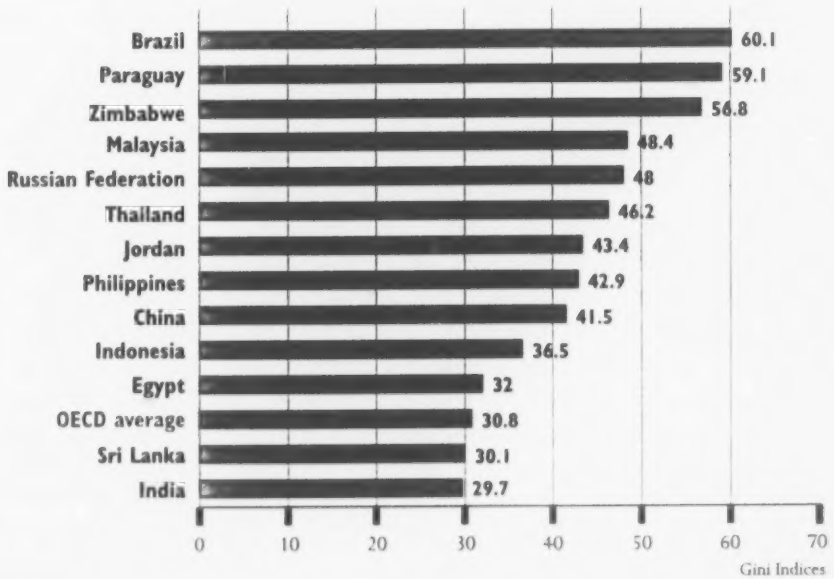
Income inequality in WEI countries tends to be far greater than in the OECD, as a result of many factors, including the state of economic and social development and the conditions of productive resources.

While income disparities exist in all countries, they are far more pronounced in some countries than in others. Figure 2.11 presents Gini Indices for 13 WEI countries and for the average of 22 OECD countries. The indices provide an indication of disparities in income within countries. They measure the extent to which the distribution of income in countries deviates from a perfectly equal distribution, in which each person has the same income. Theoretical values range from zero, when there is a perfectly equal distribution of income, to 100, in which all the income is concentrated in one unit. In practice, values tend to range from around 20 to around 60. The indices in Figure 2.11 have been developed by the World Bank's Development Research Group and are based on primary household survey data obtained from government statistical agencies. The Gini Indices for all but two of the WEI countries are considerably higher than the OECD average. In fact, the Gini Indices for Brazil, Paraguay and Zimbabwe are some of the highest in the world. Much of the inequality in these countries relates to the difference between the top 10 per cent of the population and the rest (see Annex Table 3). In the OECD, less than one quarter of the national income or consumption accrues on average to families in the top decile, while almost one half of the national income or consumption accrues to families in the top decile in Brazil, Paraguay and Zimbabwe. Many factors contribute to this difference between OECD and WEI countries.

However, the gap may close if policies conducive

Inequality derives from a combination of aspects of economic and social development, natural resources, geographical location, and other features of

Figure 2.11
Income disparity



Source: World Bank, *World Development Indicators*, 1999, p. 70.

to economic growth and the consolidation of changes are adopted...

countries' productive resources. Through a relationship of mutual causality and reinforcement, economic development tends, from a certain stage of development onwards, to be associated with falling levels of inequality. This suggests that the difference between OECD and WEI countries might diminish over time.

... to accelerate the process of capital accumulation ...

At the early stages of the accumulation of physical capital, scarcity of capital leads to high returns, a cause of income inequality. But as capital becomes more abundant, its returns fall vis-à-vis other productive factors, especially labour. Since labour capacity is an asset that is better distributed than physical capital, income distribution tends to improve.

... to improve access to education and the quality of its provision ...

A similar mechanism is at work in education: low levels of schooling produce high returns for the few who are educated. As average levels of education rise, not only is the return for those who are educated reduced, but differences between the educational levels of some individuals and others also tend to decline. Differences between individuals in the same generation tend to narrow first, although differences with past generations that received less education remain in place for several decades more. Over time, educational progress thus tends to help to reduce inequality. The fact that the relative earnings of persons with tertiary-level attainment in Brazil and Chile (the two WEI countries for which comparable data are available, see Figure 2.19) are far higher than in any OECD country underlines this pattern.

... and to deal with the challenges of urbanisation.

The countryside offers fewer economic opportunities than the city: markets are not well integrated, costs of providing education are higher and access to it lower, employment opportunities are limited, and access to financing is restricted. This translates into lower income, less education and larger families in the countryside than in the city. Early in the urbanisation process, income differences between city and countryside contribute to an increase in income inequality (see Table 4). But when most workers are based in cities, the rural-urban income gap will affect only a small fraction of the population, and its contribution to overall inequality will be reduced.

Policy-makers need to ensure that children from low-income backgrounds are able to take advantage of improvements in education systems.

Many countries participating in the WEI programme are at a midpoint in this development process, which partly explains high income inequalities and suggests that prospects are good if policies conducive to economic growth and the consolidation of changes are adopted to hasten the accumulation of physical capital and the expansion of education, to improve women's opportunities of joining the labour force, and to deal with the challenges of urbanisation.

In order to manage the growth of education systems, it will be particularly important for policy-makers in WEI countries to ensure that children from low-income backgrounds are able to take advantage of any improvements made in the education system.

Urban / rural differences

Students in urban areas may have greater access to educational services than students in rural areas, who may live far from a school and who may have few schools and programmes to choose from.

Differences in educational outcomes have also been associated with whether students live in urban or rural areas. There may be several reasons for these differences. For example, students in urban areas may have greater access to educational services than students in rural areas, who may live far from a school and may not have as wide a variety of schools and programmes to choose from. There is also a correlation between rural residency and poverty. In most countries, the average income of people living in rural areas is lower than that of those living in urban areas, even when adjusted for the cost of living. Data on WEI countries are consistent with this pattern. Table 4 in the Annex presents urban and rural poverty rates as reported by the World Bank in 1999 for seven WEI countries. Because countries have different definitions of poverty, these data are of limited use in comparing rates between countries. However, they can serve as indicators of the disparities between urban and rural areas that exist within countries. Of the seven countries, the largest income gaps between urban and rural populations can be found in the Philippines, Sri Lanka and Brazil.

In order to estimate the potential challenges posed by large rural populations in WEI countries, Table 4 also presents the relative size of the non-urban populations. These data rely on the definitions of "urban" used by each country, thus limiting the validity of international comparisons. If, however, they are used as rough indicators of the relative sizes of non-urban populations, then it appears that the challenge of reaching a highly rural population is much greater in some countries than in others. Countries with relatively small non-urban populations include the Latin American countries: Uruguay (9 per cent), Argentina (11 per cent) and Brazil (20 per cent). Countries with relatively large non-urban populations (above 60 per cent) include India (63 per cent), Zimbabwe (67 per cent), Indonesia (73 per cent), Sri Lanka (77 per cent), and Thailand (79 per cent).

Some WEI countries have responded to geographical disparities in educational opportunities with specific policies and programmes.

WEI countries recognise the tendency for disparities in participation and attainment between urban and rural populations, responding in many cases with specially targeted policies and programmes.

For example, the Ministry of Education of Chile has launched an educational improvement initiative based on the unique needs of rural populations. The programme involves special textbooks and teaching materials, pedagogical co-ordination between teachers within a local area, and professional development activities for teachers.

In Paraguay, the *Programme of Improvement of the Quality of Secondary Education*, financed by the World Bank and the Ministry of Education and Culture, works with parents whose children attend rural schools and organises associations to promote co-operation between parents and schools.

Potential to respond

Demographic patterns indicate not only demand, but also the economic potential to respond to that demand.

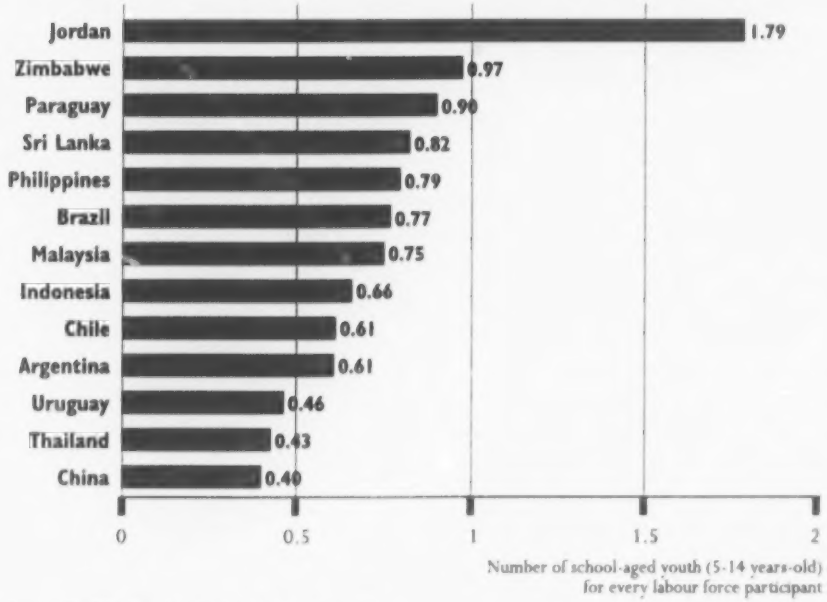
Demographic patterns serve not only as indicators of demand, but also as indicators of the economic potential to respond to that demand. Specifically, the size of the school-aged population can be compared with the size of the adult population participating in the labour market, which represents the section of the population which can pay for education services, whether through taxes or school fees.

Countries with higher proportions of young people of school age relative to labour-market participants, such as Jordan, Paraguay and Zimbabwe, face particular challenges in financing education.

Other things being equal, countries with higher proportions of young people of school age relative to labour-market participants face greater challenges in providing educational services than those with relatively larger proportions of income-generating adults. As illustrated in Figure 2.12, countries with relatively high ratios of young people of school age to labour-market participants include Jordan, Paraguay and Zimbabwe. Although completion of upper secondary education has declined somewhat in recent years in Jordan (see Annex Table 7), rates of tertiary completion continue to increase significantly (see Table 8). Providing adequate resources for the increasing numbers of students seeking tertiary education could pose a significant challenge, since, in comparison with other WEI countries, there is a relatively small base of labour-force participants on which to rely.

At the other end of the scale, although China, Thailand, Uruguay, Argentina and Chile also face increasing demand for education of one type or another, in these countries there is a larger base of potential economic support.

Figure 2.12
Ratio of school-aged population to labour force participants (1997)



Source: OECD. For data and notes, see Annex.

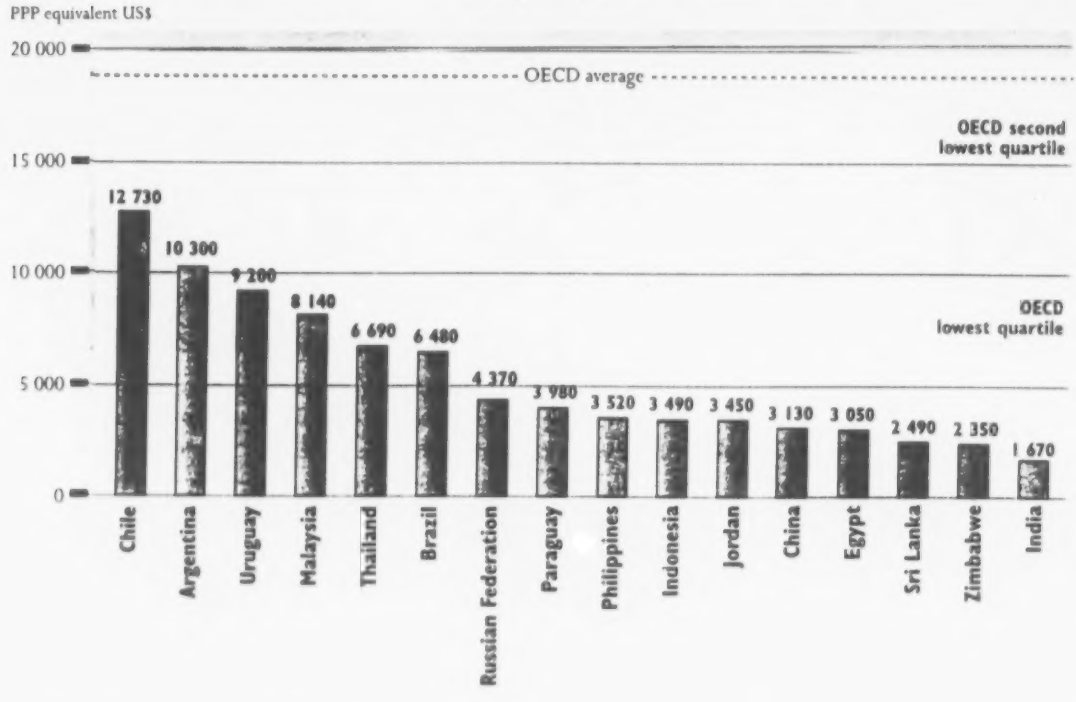
In examining a nation's potential to provide adequate educational resources, it is useful to examine the amount of income actually being generated in addition to the size of the population generating it. Gross Domestic Product (GDP) per capita represents the size of a country's economy relative to its population size. Generally, the larger the GDP per capita, the more resources there are available to fund education. Of the WEI countries, Chile had the highest GDP per capita in 1997, PPP US$12 730 (see Figure 2.13). Argentina, Uruguay, and Malaysia also had relatively high GDPs per capita, PPP US$ 10 300, PPP US$ 9 200, and PPP US $8 140 respectively. WEI countries with relatively low GDPs per capita in 1997 included Sri Lanka (PPP US$ 2 490), Zimbabwe (PPP US$ 2 350), and India (PPP US$ 1 670).

WEI countries with higher national incomes, such as Argentina, Chile, Malaysia and Uruguay, have an advantage in achieving high levels of educational participation and attainment ...

With more resources available to devote to the education system, countries with relatively high GDPs per capita have an advantage over countries with relatively low GDPs per capita in achieving high levels of educational participation and attainment. Data from the WEI and OECD countries for which data are available reveal a correlation between GDP per capita and expected years of schooling, a basic measure of educational participation. In Figure 2.14, countries with relatively high GDPs per capita tend to have more years of school expectancy. For example, the WEI countries, which tend to

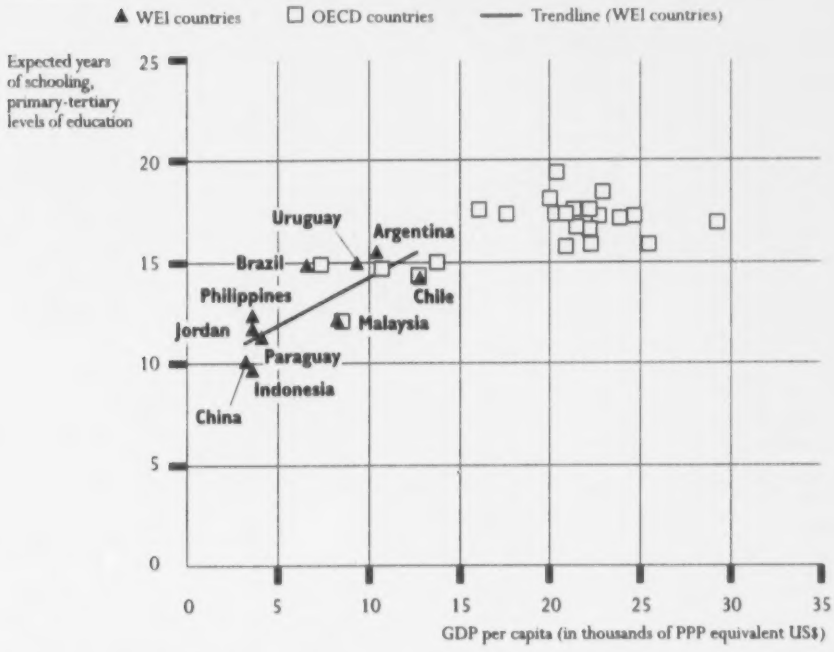
... as is shown in the positive relationship between GDP per capita and expected years of schooling.

Figure 2.13
GDP per capita (1997)



Source: OECD. For data and notes, see Annex.

Figure 2.14
GDP per capita and expected years of schooling (1997)
(WEI: 1997, OECD: 1996)



Source: OECD. For data and notes, see Annex.

have lower GDPs per capita than the OECD countries, also tend to have fewer years of school expectancy. There are exceptions, however, such as Argentina, whose years of school expectancy are higher than those of three OECD countries with higher GDP per capita (the Czech Republic, Greece and Korea) and close to those of several others. Furthermore, the pattern appears to flatten out among countries with high GDPs, as can be seen in the relationship between GDP and school expectancy among OECD countries.

National income can affect not only participation rates but also the quality of educational services.

Differences in participation are only one way in which differences in national wealth may affect the education system. What these data do not show are the qualitative differences between education in different countries: the content and quality of 12 years of education in one country may be quite different from 12 years of education in another country, especially where significant differences in national wealth are involved. Chapter 3 uses expenditure per student as one indicator of the potential quality of educational provision.

■ PROGRESSION AND COMPLETION

As countries seek to increase educational participation, higher enrolment over more years is not their only concern. They also seek to ensure that students progress through the education system smoothly and that they complete ever

higher levels of education, rather than simply entering and remaining enrolled for a given number of years. Progression from grade to grade at the normal time reflects the internal efficiency of the system, and "graduation" often signifies that students have met a certain set of standards, whether stated formally or held as a general belief in the minds of the public.

Increasing access to education must be paralleled by improvements in the internal efficiency of education systems.

This section presents indicators that address issues of progression and completion, adding, at a very basic level, some perspective on students' experiences in the education system to the previous discussion of their length of time in it. It concludes with a discussion of the employment experiences of those with different levels of education, exploring the question of the extent to which higher levels of educational attainment are rewarded in the labour market.

Grade repetition

Grade repetition remains an important impediment to the efficiency of schooling.

Progression is *not* considered smooth when students must repeat one or more years of schooling, or when their participation is interrupted for a period of time. While data on both these cases are difficult to collect and interpret, the WEI indicators provide information on the former, specifically, on the percentage of primary and lower secondary school students repeating their current grade (see Table 14). Among the WEI countries, varying practices can be observed. At one extreme, grade repetition appears quite common in Brazil, with 26 per cent of primary school students and 20 per cent of lower secondary school students repeating their grades in 1997. At the other extreme is Malaysia, which has a policy of not allowing grade repetition.

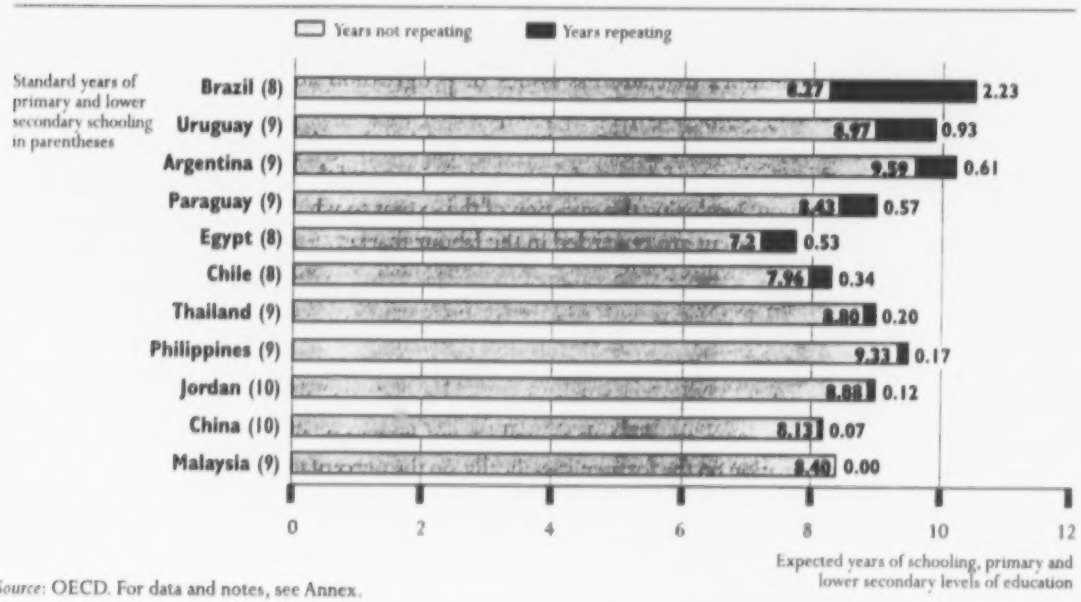
Research shows that in many countries the proportion of repeaters, as measured by school census data, is often underestimated. In Brazil, where grade repetition is a serious problem, other methods of measuring grade repetition are now employed. For example, repeaters are no longer measured by the reports of school principals, but estimated from more detailed data from both household surveys and the school census.

The years spent repeating grades during basic education can add up – in Brazil to more than 2 years during primary and lower secondary education.

Over the course of primary and lower secondary schooling, years spent repeating grades can account for a significant proportion of the time that students spend in school. Conceptually similar to the expected years of schooling presented in Figure 2.1, the expected years of repeating presented in Figure 2.15 are the sum of the proportions of students repeating their grade at each primary and lower secondary grade. This represents the average number of years which students can expect to spend repeating a grade level during their primary and lower secondary education (see box below).

In Brazil, which has the highest rates of repetition in both primary and secondary school, the expected years of repeating for primary and lower secondary education is over two years. Uruguay has the next highest expected years of repeating, 0.93 years. Other countries with more than 0.5 years of expected grade repetition include Argentina (0.61 years), Egypt (0.53 years) and Paraguay (0.57 years). Even though this indicator is presented as the average number of years of repetition

Figure 2.15
School expectancy and grade repetition
Average years a 5 year-old can expect to repeat a grade and average year a 5 year-old can expect to continue without repetition under current conditions (1997)



Source: OECD. For data and notes, see Annex.

Grade Repetition in OECD Countries

If repetition helps redistribute students to the grade matching their ability, then countries with a high proportion of children above the normal age might be expected to have a narrower range of achievement within the grade being tested. It is indeed the case that in reading, mathematics and science – areas for which comparable achievement data are available in the OECD – the achievement range is below average in all four OECD countries with the highest proportion of overage students and repetition (the French Community of Belgium, France, Portugal and Spain). But the data also show that the students of "above normal age" have more difficulties in reading, mathematics and science than their classmates, which suggests that repetition is not doing much to improve the skills of the students held back for a year or more. Worthy of note is also the fact that the Nordic countries, where repetition is not practised, do not have a greater range of achievement amongst their students than other countries.

The serious doubts that surround the effectiveness of grade repetition as an educational approach explain why it has been abandoned by some countries (for example, Denmark, Ireland, Finland, Greece, Norway, Sweden and the United Kingdom) or restricted by others (France, and most recently Portugal). A different approach for supporting "slow learners" is now being implemented by the French Community of Belgium, France and Spain, by moving into a system of "cycles" at the primary level, with repetition forbidden except at the end of a cycle.

Experience has shown that in the context of OECD countries, differentiated, individualised and multi-grade teaching and formative assessment by teachers are more flexible ways of meeting students' needs than grade repetition, and can therefore be more effective in addressing low achievement.

Source: Education Policy Analysis, OECD, 1997.

BEST COPY AVAILABLE

for the typical student, it is important to reflect that grade repetition does not affect students randomly. Students with persistent academic difficulties are much more likely to repeat one or more years of schooling than students who grasp material more easily, many of whom may never repeat a grade.

Even in countries where grade repetition is an accepted practice, policies are being developed to reduce its occurrence, including ...

The wide range of retention rates is probably a reflection of differences in educational philosophy. Generally speaking, the goal of grade repetition is to provide students with additional time to acquire knowledge or master certain skills. The potential benefits of repetition must be weighed against the potential drawbacks, which include students' separation from their peers, stigmatisation, and the fact that without changes in teaching method, students may do no better in the repeating year than in the previous year. Depending on whether they believe that the benefits outweigh the costs, individual countries and schools will have different policies and practices regarding retention. It should be noted, however, that even in countries where repetition is common, high rates are not necessarily acceptable.

... limiting the number of times a students can repeat (Jordan) ...

Countries pursue several strategies to keep repetition rates low. Some, such as Malaysia and Sri Lanka, follow a policy of automatic promotion. Jordan limits the number of times a student can repeat the first, second and third grades to once each, and has a five per cent limit on the number of students that can be held back in those grades. Students are allowed to repeat the fourth grade twice.

... establishing an overall ceiling for repetition rates (China) ...

China has a target of limiting grade repetition in the years of compulsory education to five per cent of enrolment, and is also conducting experiments in eliminating grade repetition in selected schools and areas.

... making qualitative improvements in teaching (Argentina) ...

Countries also address the problem through qualitative improvements in teaching, so that students learn more easily, thus reducing the need to repeat the year. Argentina has no official policy restricting grade repetition, but has organised attempts to reduce it, by distributing special pedagogical materials for teachers, for example, on how to help students with learning difficulties.

... expanding early childhood education (Philippines) ...

In the Philippines, where repetition rates are highest in the first grade, one strategy being used is the expansion of early childhood education. In many WEI countries which have initiatives for overall improvements in quality of teaching, reduction of repetition rates is typically a desired outcome.

... creating flexible systems of credit accumulation that allow students to repeat only those courses in which they encounter difficulties (Thailand).

Thailand has reduced repetition rates in secondary schools by introducing a system whereby students receive units of credit for individual courses. Under the previous system, difficulties in one or two subjects might require a student to repeat an entire year, but with the flexibility of the new system, students can still progress to the next grade level, repeating only the courses with which they had difficulties.

Differences in repetition rates may also arise from the fact that countries have different criteria for passage from one grade to the next. In countries

Differences in repetition rates also reflect different policies on transition within education systems.

with policies of automatic promotion, there are no criteria. Some countries have attendance requirements, such as Chile, where the only requirement for advancement from the first to the second grade and from the third to the fourth grade is 85 per cent attendance.

In some countries, grade promotion is linked to the attainment of academic standards.

In some countries, students must meet a certain academic standard in order to move to the next grade. In Jordan, students in the first, second, and third grades must pass the subjects Arabic and mathematics in order to advance to the next grade level. Countries may use subjective standards, such as a teacher's opinion, or more objective criteria, such as a specific mark in a standardised examination. Students may also repeat a year of schooling if they are likely to face difficulty in passing a completion or entrance examination in the near future. In Jordan, students wishing to enter a university must pass the *General Secondary Certification Examination* in the twelfth grade. To allow students to prepare for this examination more thoroughly, the country has recently allowed grade repetition in the eleventh grade.

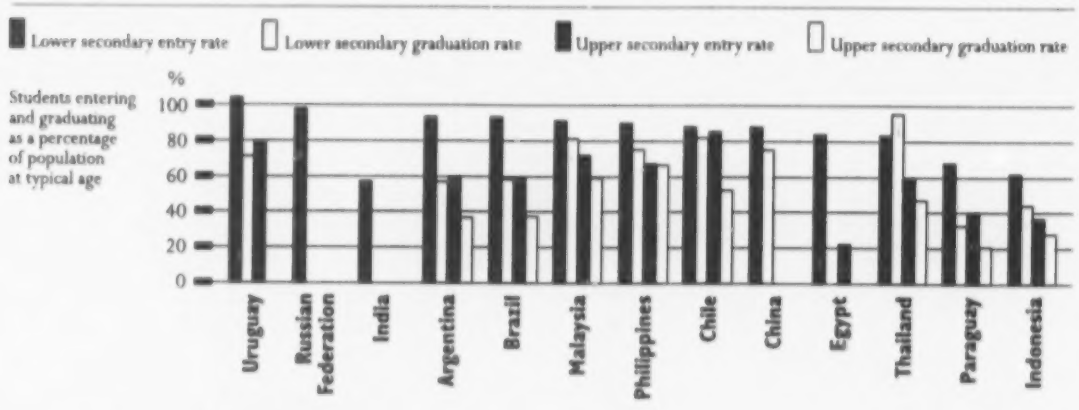
Thailand used to have a system of centralised terminal grade examinations, but recently abolished them in favour of school-based assessments, reducing repetition rates in the process.

Entry and completion

In all but three WEI countries, entry into lower secondary education exceeds 80% of an age cohort ...

In the education systems of the WEI countries, the levels of participation in primary schooling are generally quite high (see Figure 2.2). Progression to and completion of higher levels of education, however, are less widespread. Figure 2.16 presents lower and upper secondary entry and graduation rates. These are calculated as the number of new entrants and graduates divided by the number of people in the population at the age typically associated with

Figure 2.16
Lower and upper secondary entry and graduation rates (1997)



Source: OECD. For data and notes, see Annex.

entry or completion, multiplied by 100.[1] Entry into lower secondary education is fairly high: in only three of the 13 countries represented, India, Indonesia and Paraguay, is the rate lower than 80 per cent.

... but not all students who enter this level complete it successfully.

However, not all students who enter lower secondary education complete it. Among the countries represented in Figure 2.16, the graduation rates range from 33 per cent in Paraguay to more than 80 per cent in Chile, Malaysia and Thailand. In some cases, such as Argentina, Brazil, Paraguay and Indonesia, the difference between entry and graduation rates is quite wide, suggesting that large numbers of students enter lower secondary school but do not complete it, "dropping out" in other words. In fact, in only two countries, Malaysia and Chile, are the differences ten percentage points or less.

Upper secondary graduation rates in WEI countries are low when compared with the OECD ...

The current upper secondary graduation rates in WEI countries can be viewed in several different ways (see Figure 2.16 and Annex Table 18). Compared with the graduation rates of OECD Member countries (for first educational programmes only), they are relatively low. While the graduation rate in one OECD country, Mexico, is below those of WEI countries except Paraguay, the graduation rates in all other OECD countries are above those in all of the WEI countries.

... but current graduation rates suggest marked improvements.

However, when the upper secondary graduation rates of the WEI countries are compared with levels of upper secondary attainment of people just a few years older than the current cohort of graduation-age students, they suggest significant improvements in some cases. In the Philippines, Malaysia and Brazil, upper secondary graduation rates are significantly higher than the upper secondary attainment rates of 20-24 year-olds.

The standards for successful completion of educational levels differ widely between countries.

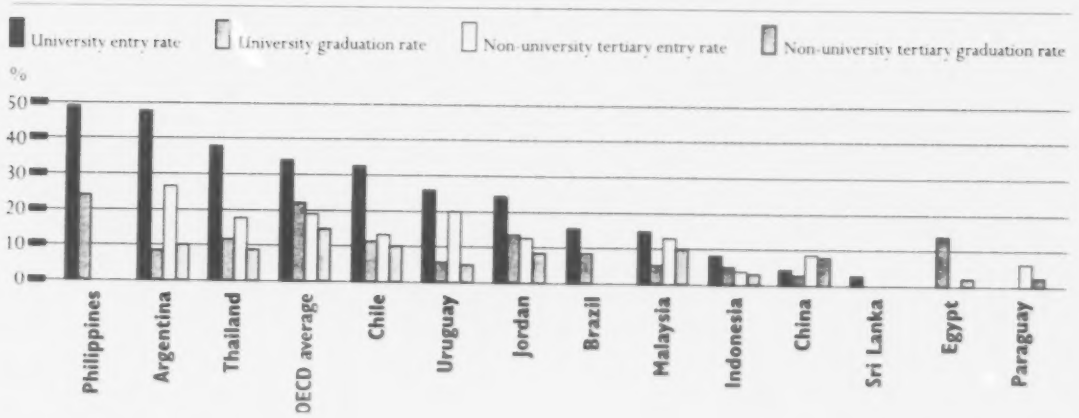
Like rates of grade repetition, entry and completion rates are also influenced by the relevant criteria, such as standardised examinations. Several WEI participants, such as the Philippines, Argentina, Chile and Paraguay have no centralised entry or leaving examinations, although there are usually examinations or other forms of assessment at the school level. Other countries do have standardised examinations, such as the national *Advanced Level General Certificate of Education* (A Level) used for university entry in Sri Lanka, and the regional and provincial lower and upper secondary graduation examinations in China. Currently, Thailand has school-based entrance examinations for both lower and upper secondary education, which serve to restrict entry at these levels. In accordance with the current goal of making upper secondary education a part of basic education for all students, however, there is a plan to eliminate these examinations by the year 2001.

Participation in tertiary education is still the exception.

At the tertiary level, there is a similarly wide range of entry and graduation rates (see Figure 2.17). Countries with relatively low tertiary entry rates include Sri Lanka (3 per cent for university-level programmes),

1. Values greater than 100 are possible in cases where there are a large number of entrants either younger than or older than the typical starting age or with ages unknown.

Figure 2.17
Tertiary level entry and graduation rates (1997)



Source: OECD. For data and notes, see Annex.

China (4 per cent for university-level programmes and 7 per cent for non-university tertiary programmes), and Indonesia (8 per cent for university-level programmes and 4 per cent for non-university tertiary programmes). Countries with relatively high entry rates include the Philippines (49 per cent for university-level programmes), Argentina (48 per cent for university-level programmes and 27 per cent for non-university programmes), Thailand (38 per cent and 18 per cent) and Chile (32 per cent and 13 per cent). For Malaysia, only data on entrants into public institutions are available; if the figures for entrants into private institutions and students studying abroad were included, the entry rate for Malaysia would rise considerably. Argentina, the Philippines and Thailand have higher university-level entry rates than the OECD average of 34 per cent. However, for all of these countries, the differences between entry and graduation rates are much greater than that between the OECD averages.

Unsuccessful completion

Although the typical lower secondary completion age usually coincides with the end of compulsory schooling, many students continue to upper secondary school.

Despite the fact that the typical lower secondary completion age coincides with the ending age of compulsory schooling in many countries, in the countries reporting data, it appears that most students who graduate from lower secondary school continue to upper secondary school. As at lower secondary level, however, there appear to be large numbers of students who enter upper secondary school but do not graduate.

However, in 6 out of 8 WEI countries the upper secondary graduation rate is less than 80% of the entry rate ...

The upper secondary graduation rate is less than 80 per cent of the entry rate in six out of the eight countries reporting data: Argentina, Brazil, Chile, Indonesia, Paraguay and Thailand. It is important not to treat the differences between entry and graduation rates as precise measures of school dropout. There are several reasons for this, the most important of which is that since these data were collected in a single year, they compare the graduation rates

of one set of students with the entry rates of students several years younger. In countries with expanding educational participation, entry rates tend to increase each year. Current entry rates in these countries can be higher than current graduation rates simply because a smaller proportion of the older graduation-age cohort entered that level of schooling than did the current, younger cohort. Thus, to some degree, differences between current entry and graduation rates may be due to growth in enrolments.

Without data on the growth in enrolments, it is difficult to estimate how much of the difference between entry and graduation rates is due to growth in participation. However, if one assumes that trends in entry mirror trends in attainment, an examination of recent trends in educational attainment can provide some indication of the magnitude of enrolment growth. Tables 6 and 7 in the Annex present the upper and lower secondary attainment rates for different age groups in the adult population. In some cases, the percentage point change between two consecutive age groups is quite steep, as in the case of Indonesian 25-29 year-olds and 30-34 year-olds, where the lower secondary attainment rate of the younger group is 13 percentage points higher than that of the older group.

... suggesting a large number of dropouts in several countries.

Even after taking these trends into consideration, there appear to be a large number of dropouts in several countries. For example, if the difference between lower secondary entry and graduation rates in Argentina, 36 percentage points, is compared with the growth in lower secondary attainment between 20-24 and 25-29 year-olds, five percentage points, it is reasonable to conclude that only a relatively small proportion of the difference is due to growth in enrolment. In fact, in most cases where the difference between entry and graduation ratios is large, growth in enrolments would seem to account for only a small portion of the difference.

Early school-leavers may drop out of school without finishing a course of study; or they may finish the course but leave without the relevant qualifications.

Early school-leavers may drop out of school without finishing a course of study; or they may finish the course but leave without the relevant qualifications. National data for WEI countries show the magnitude of both of these problems. Failure is the result of the interaction of many variables: some depend on the students themselves, some relate to factors in their home and community environments, and others are school-based (*e.g.*, inappropriate teaching methods, inadequate resources or poor curriculum).

A broad range of policies is used to address the different facets and contexts of school dropout.

It is now widely accepted that no single explanation can account satisfactorily for dropout and educational failure. This realisation has led to the development of a broad range of policies – systemic, institutional and programmatic – to address different facets and contexts of school dropout.

Collaboration between families, schools and communities is required...

To be most effective, such policies need the support of different actors involved in education: parents and students themselves; school leaders and teachers; social workers and educational authorities. Inter-agency co-operation

... to support children at risk, from birth through to their integration into the labour force.

and collaboration between schools, families and communities, are required to create appropriate frameworks to support children at risk, from birth through to their integration into the labour force. Experience in some OECD and WEI countries shows the importance of facilitating transitions and pathways throughout the school system and improving educational and career guidance.

Greater effort is also required to facilitate transition between primary and secondary levels.

While the transition from school to work has become a main policy focus in most countries, a greater effort is also required to facilitate other transitions throughout the schooling process, especially those between the primary and secondary levels. In the 21st century, success at school will no longer be solely measured by the number of years studied, nor by the attainment of a diploma for life. Rather, students will be expected successfully to complete different itineraries and to acquire the motivation to engage in lifelong learning. This will require a more flexible curriculum; smoother transition points throughout the schooling process; less rigid forms of evaluation and certification; and a pedagogy which meets the needs of all students. The implications for teacher training – both initial and in-service – are considerable since the role and function of the teacher have to be conceptualised in a new way. Teachers can no longer be mere "knowledge transmitters" who help the students to obtain an upper secondary qualification. Rather, the teacher has to support students so that they can successfully complete diverse learning paths and continue learning throughout their lifetimes.

Economic benefits of completion

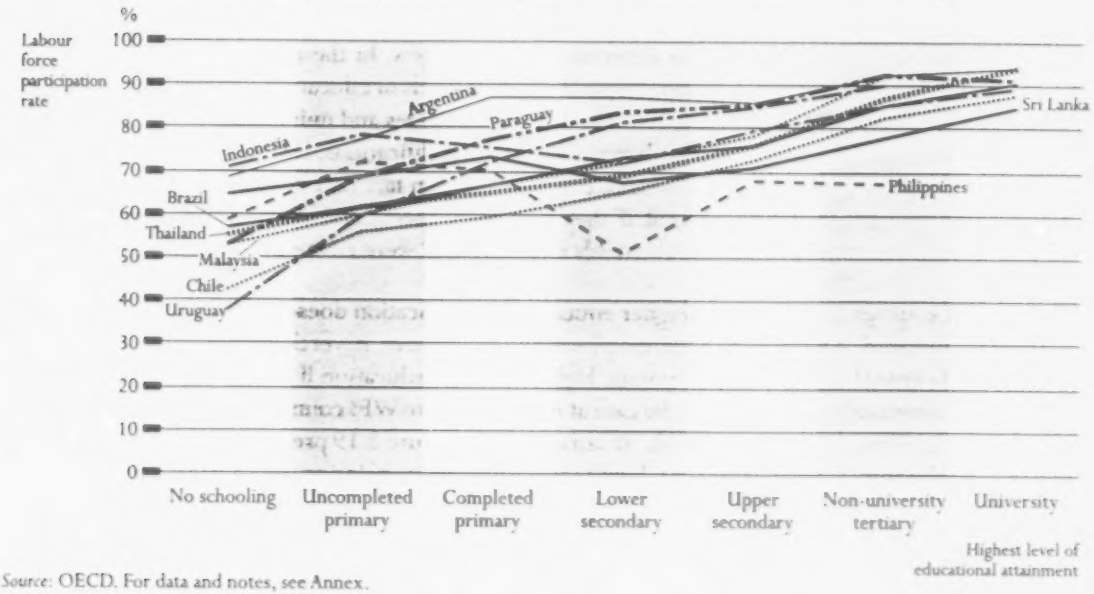
The greater the economic and social rewards, the greater the incentives for participation in education.

One reason why people pursue higher levels of education is its anticipated benefits in the labour market, not only in terms of the types of jobs for which they will be qualified, but also in terms of the ability to find employment, remain employed, and receive a high salary. The greater the rewards, the greater the incentive to continue one's education. A labour market that rewards higher levels of educational attainment can help a country in its pursuit of expansion of educational participation and completion. Countries may also look to the labour market for guidance in decisions regarding priorities for programme development. For example, depending on labour market conditions, they may choose to encourage participation in one particular level or programme, or to discourage participation in another. This section examines three labour market indicators in relation to educational attainment: labour force participation, unemployment and income, with the first two indicators reported by gender.

Labour force participation rates rise with increasing levels of education but they do so much more for women than for men.

Labour force participation is not strictly a measure of labour market returns to education, since it is also a matter of personal choice, but it is useful as an indication of one aspect of people's behaviour based on their level of educational attainment (see Figure 2.18). As Table 10 indicates (see Annex), the patterns of labour force participation are quite different for men and women. For men, those without any schooling or those with some primary

Figure 2.18
Labour force participation rate, by level of educational attainment (1997)



Source: OECD. For data and notes, see Annex.

school education have lower rates of labour force participation than those with higher levels of education. Beginning with those who have completed primary education, however, labour force participation is generally high (85 per cent and above) regardless of the level of education. For women, there is a much stronger association between educational attainment and labour force participation. Although there are some cases in which labour force participation decreases with a rise in educational attainment, such as Indonesia, where the lowest level of labour force participation is found among those whose highest level of educational attainment is lower secondary education, overall, there is a significant and steady rise in labour force participation from one level of educational attainment to the next. This pattern is not surprising given the fact that in many cultures, there is a general expectation that all men will work, whereas women may not participate in the labour force, either because they do not face similar pressures or because the work they do is unpaid and outside the official labour market. In these situations, the pursuit of higher levels of education by women can usually be associated with a greater intention to work, while men, since most have the intention to work, may choose to pursue higher levels in order to do a particular type of work.

The relationship between unemployment and the level of education is more varied.

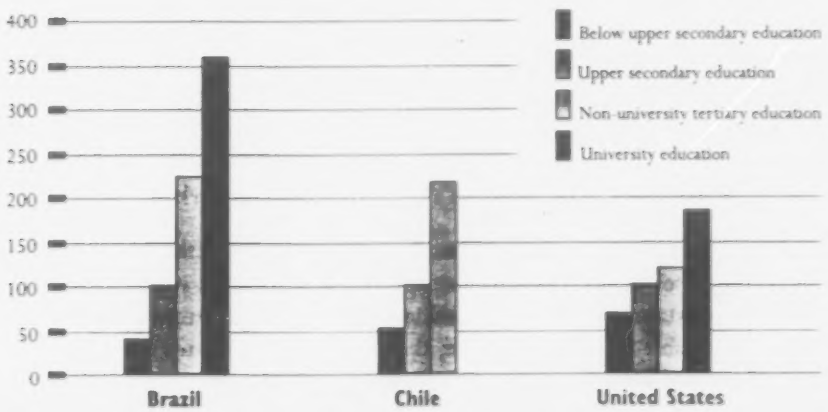
Unemployment data reveal that in WEI countries, although there are numerous cases of decreases in unemployment associated with increases in educational attainment, the relationship is not always consistent or significant (see Annex Table 11). For example, the unemployment rates for women in both Brazil and Uruguay decrease steadily from the lower secondary level to the university level, but unemployment for both men and women appears to rise with increasing levels of attainment in Indonesia and the Philippines. One

reason for this pattern is that although people with higher levels of educational attainment may be in general more highly skilled than those with lower levels of education, they are not necessarily competing for the same types of jobs, and may be in different labour markets. In the case of Sri Lanka, although people continue to pursue higher levels of education, graduates of secondary schools, trade schools, technical colleges and universities face a very limited labour market demand for their qualifications. In cases such as this, people with higher levels of education may in fact have more limited opportunities for employment if they have very specialised skills and are not willing to work outside the fields in which they were trained.

Education and earnings are positively linked, whatever the type of socio-economic system or the degree of economic development.

Even if a higher educational qualification does not bring with it decreased prospects of unemployment, there may nevertheless be strong economic incentives to pursue higher levels of education if doing so results in a higher salary. This is the case at least in the two WEI countries for which comparable data are available, Brazil and Chile. Figure 2.19 presents the earnings of people with different levels of education in relation to those for people with qualifications at upper secondary level. Here, the economic rewards associated with higher levels of academic achievement appear quite pronounced. For example, in Chile, a person with upper secondary education earns on average nearly twice as much as someone without upper secondary education, while someone with non-university tertiary education earns over twice as much as someone whose highest level of education is upper secondary. There is a similar pattern in Brazil, and additional data on university graduates indicate that they earn 1.6 times as much as non-university tertiary graduates and over 3.5 times as much as upper secondary graduates. In these two countries, the

Figure 2.19
Relative earnings of persons aged 25-64 with income from employment, by highest level of educational attainment (1996)
(upper secondary = 100)



Source: OECD. For data and notes, see Annex.

differences in salary associated with differences in educational attainment are greater than in any of the 20 OECD countries reporting data. Among the OECD countries, the United States has the second widest range of average earnings relative to upper secondary graduates, but it is much narrower than the range in either Brazil or Chile. Individual returns on education are higher where the scarcity of this resource is most acute. An individual with an additional year of education in a country where educational levels are very low is likely to receive a much greater income increase than someone in a country where high levels of education are common.

■ SCHOOL TYPES AND PARTICIPATION

Both between and within WEI countries, a wide variety of institutions and programmes exist that are managed and financed by different public and private stakeholders.

In all WEI countries, there is variation between and within countries in the existence of and enrolment in different types of schools and programmes. Schools can be administered and supported by the government, by private entities, or by a combination of both. Schools, and programmes within schools, can also be differentiated according to whether they prepare students for specific jobs and careers or for study at higher levels of education. These variations can arise from educational traditions and philosophies, but also from economic constraints on what governments are able to provide and on policies intended to meet labour market needs. This section explores some of the differences between countries in the availability of school and programme types, participation in them, and their possible links with overall differences in participation and completion.

Public and private schooling

For the purpose of international comparisons, a distinction needs to be made between public, government-dependent private, and independent private institutions.

The WEI indicators place schools into three categories of privatisation: public, government-dependent private, and independent private. Institutions are classified as public if they are controlled and managed directly by a public education authority or other government agency, or by a governing body, most of whose members are either appointed by a public authority or elected by the public. An institution is classified as private if it is controlled and managed by a non-governmental organisation (such as a religious organisation, trade union, or business enterprise) or if its governing board consists mostly of members not selected by a public agency. Private schools are further sub-divided into government-dependent and independent institutions, the distinction being that government-dependent private schools receive more than 50 per cent of their core funding from government agencies. Thus, schools classified as independent may still receive government funds, as long as these do not exceed 50 per cent of core funding.

Figure 2.20 presents the distribution of primary and secondary students between public and private schools. Countries with relatively low levels of privatisation include Malaysia (2.3 per cent of students enrolled in private schools) and Egypt (3.1 per cent). Countries with relatively high proportions of private institutions include India (26.1 per cent), Chile (43.2 per cent)

and Zimbabwe (85.1 per cent). The countries with the highest proportion of students enrolled in independent private schools include Indonesia (18.1 per cent) and Jordan (23.2 per cent).

Private schools provide alternative teaching methods and curricula and can help to serve the diverse needs, interests and abilities of the total student population.

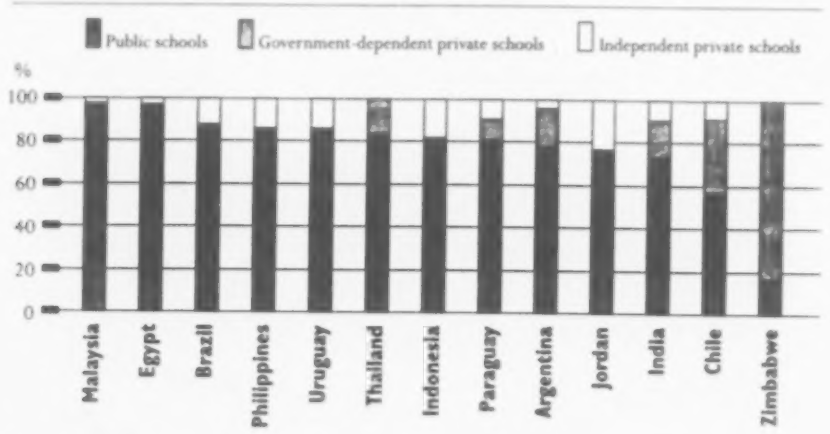
The nature and purpose of private schools varies from country to country and even from school to school. Schools associated with particular religious organisations allow parents to place their children in a school that will impart a particular set of religious and moral beliefs. Other private schools provide alternatives of a different sort, such as those based on particular teaching methods or curricula. It is often argued that this type of diversity is advantageous for a system as a whole, and can help it to serve the diverse needs, interests, abilities, and learning styles of the total student population.

Private schools can also provide incentives to public schools to improve.

Furthermore, by competing for students with public schools, private schools may provide incentives to public schools to improve, thus improving the system as a whole. The WEI data, however, can provide no clear indications that countries with high degrees of privatisation are any more effective in reaching and retaining students than are systems with relatively lower degrees of privatisation.

If one compares the graduation rates of the countries presented in Figure 2.16, there is no clear association between privatisation and graduation (Figure 2.20). While Chile stands out as a country with both high degrees of upper secondary privatisation and upper secondary graduation, both Malaysia and the Philippines achieve higher graduation rates with predominantly public systems. There are, of course, many other factors that could mask the true relationship, and there are also other outcomes, such as achievement, upon which private schooling may have a

Figure 2.20
Distribution of students in public, government-dependent private, and independent private schools, primary and secondary levels of education (1997)



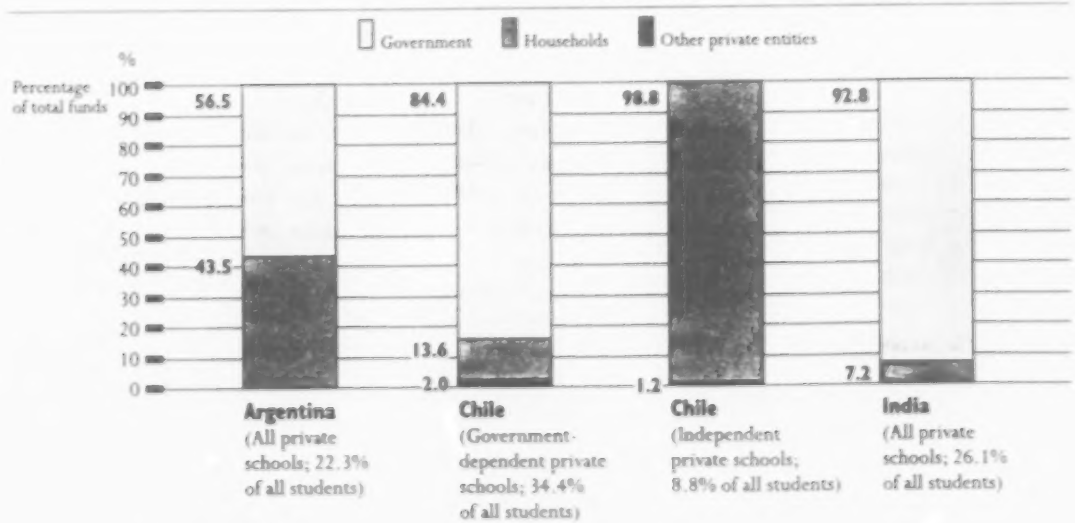
Source: OECD. For data and notes, see Annex.

positive influence but which are currently not measured in the WEI programme. Another reason why the benefits of private schools may be masked in national-level data is that they may not be viable options for all students. In some countries, many parents see private schools as providing a better learning environment and teaching of higher quality than public schools, but the costs can limit their accessibility. Because family wealth is in many cases associated with educational participation and attainment, those whose parents can afford the cost of private schooling tend to have a greater likelihood of completing relatively high levels of education than those whose parents cannot afford it. Thus in many cases, those benefiting from private education tend to be those who would have succeeded in the education system anyway.

Private schools differ both between and within countries in the extent to which they draw on public and private financial resources.

This is not always the case, however, especially when it is borne in mind that many private schools receive public money. Although the WEI database does not contain data on the costs of public schooling, it is possible to gain some perspective on the relative burden of private education on families by examining the sources of funds for private schooling. Figure 2.21 presents the percentage of primary and secondary private school funding provided by the government, individual households, and other private entities in three WEI countries, Argentina, Chile and India. In the case of Chile, the data make a further distinction between government-dependent and independent private schools. The three countries show a wide range in the proportion of funding borne by families. In India, where 26.1 per cent of primary and secondary school students attend private schools, payments from private households account for 7.2 per cent of school funding, with the other 92.8 per cent coming from the government.

Figure 2.21
Sources of funding for primary and secondary privately-managed education (1997)



Source: OECD. For data and notes, see Annex.

Where most of the costs for privately managed schools are borne by the government, the costs for families may be only slightly higher....

If most of the costs are borne by the government, the costs of private schooling may be only slightly higher than the cost of public schooling, although for families living in poverty, even a small expense may be beyond reach. In Chile, 13.6 per cent of the funding for government-dependent schools comes from individual households, the rest coming almost exclusively from the government. Although government-dependent schools in Chile are allowed to charge tuition fees and admit students selectively – two things public schools generally do not do – the relatively high degree of public funding makes them appear far more accessible than independent private schools.

... while independent private schools may be well beyond the reach of many families.

At the other extreme are independent private schools in Chile, where 98.8 per cent of the funding comes from individual households.

While no data on funding sources are available for Zimbabwe, it is reported that government-dependent private schools enrol the majority of students because they are often less expensive than public schools. These schools are managed by local councils, churches, or boards of governors, but are registered with the government. The government appoints the teachers, pays the salaries and controls the curriculum and some of the costs, such as fee increases. At the same time, fees for public schools have become more expensive, primarily because of decentralisation. As a result, enrolments in and establishment of government-dependent schools are increasing, while no new public schools are being established.

Secondary and tertiary programme options

In addition to the variety of public and private school options, variety can also be found in the vocational orientation of schools and in programmes at secondary and tertiary levels.

In addition to the variety of public and private school options, variety can also be found in the vocational orientation of schools and programmes at secondary and tertiary levels. By making available a variety of secondary and tertiary options, governments seek to ensure that the school curriculum is relevant to students' interests and aspirations while at the same time it addresses the needs of the labour market. Students whose interests are not strictly academic may find vocational programmes more interesting and more valuable for their future and, as a result, may be more likely to attend and complete secondary and tertiary education than would be the case if there were no vocational provision. Although vocational secondary school students in one country may simply be learning what young people in other countries learn out of school "on the job", they may also have greater exposure to academic content such as language, mathematics and science than those not attending school. Thus, there may be some academic benefits to learning vocational skills in a school setting.

For the purpose of international comparisons, a distinction between general, pre-vocational, and vocational programmes needs to be made.

The WEI database uses three categories for vocational orientation. *General* programmes are not designed explicitly to prepare participants for a specific occupation, class of occupations, or further vocational or technical education. *Pre-vocational* or *pre-technical* programmes are designed to introduce participants to the world of work and prepare them for entry into further vocational or technical education, but do not result in a vocational or technical qualification that is directly relevant to the labour market. *Vocational* or *technical* programmes prepare

participants for direct entry into specific occupations and result in a vocational or technical qualification that is of direct relevance to the labour market.

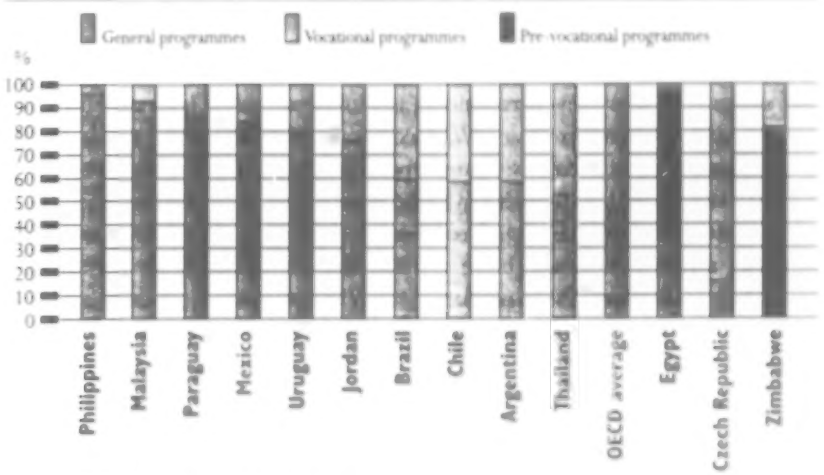
By contrast with OECD countries, where vocational programmes tend to predominate at the upper secondary level, general programmes are more common among WEI countries.

Figure 2.22 presents the distributions of students enrolled in general, pre-vocational, and vocational programmes in WEI countries, two OECD countries, and the average of the OECD countries. Among WEI countries, the proportion of students in vocational programmes ranges from zero per cent in the Philippines to 46.8 per cent in Thailand, all of which are lower than the OECD average of 53 per cent. The two OECD countries included in Figure 2.22, Mexico and the Czech Republic, represent the low and high values among OECD countries for vocational enrolments. Only Egypt and Zimbabwe report upper secondary students enrolled in pre-vocational programmes, 63.9 per cent and 81.2 per cent, respectively.

At the tertiary level, although programmes are less commonly labelled "vocational", most countries make the distinction between programmes with a theoretical orientation, referred to as "ISCED 5A" (based on the International Standard Classification of Education), and those with a more practical orientation, "ISCED 5B". ISCED 5B programmes tend to be of shorter duration than ISCED 5A and focus on occupationally specific skills geared for direct entry into the labour market. Table 19 in the Annex presents the distribution of entry rates between ISCED 5A and ISCED 5B programmes for 12 WEI countries.

High entry rates in vocational and ISCED 5B programmes may be the result of several factors, including government strategy, labour market demand for technically skilled people, and cost. For example, governments may choose to encourage participation in vocational and ISCED 5B programmes in order

Figure 2.22
Distribution of upper secondary enrolment, by programme type (1997)



Source: OECD. For data and notes, see Annex.

to meet labour market needs. This is the case in Sri Lanka, where the government is planning to introduce a technical stream at the upper secondary level to attract more students to areas where there are shortages of workers. In Jordan, enrolments in upper secondary vocational programmes are maintained in part through a policy that steers low-achieving students away from academic and into vocational programmes, and also through the establishment of comprehensive schools, which make it easier for students to participate in vocational programmes.

■ CONCLUSION

WEI countries have made great strides in increasing participation in and completion of all levels of education over the past few decades. They have done so despite having fewer financial resources to support expansion than the typical OECD country and, in some cases, despite significant increases in the numbers of potential students. Historical disparities in participation and attainment between men and women are decreasing, and in several cases, have been reversed.

However, significant challenges remain. In most WEI countries, only a minority of young adults complete the upper secondary level of education that often allows individuals to participate fully in, and take advantage of, a changing labour market and society. Furthermore, while declining birth rates and high levels of enrolment at the primary level of education may suggest that policy attention can now shift from expanding primary enrolments to improving the quality of primary education, in more than half of the WEI countries the age group typically associated with upper secondary education will increase by between 16 and 31 per cent over the coming decade. In the light of both large remaining attainment gaps at the higher levels of education and growing demographic pressure, WEI countries will need to give sufficient attention to providing qualified education personnel and an appropriate infrastructure for secondary education.

Furthermore, high rates of grade repetition and dropout from both lower and upper secondary levels remain an impediment to the internal efficiency of education systems in many WEI countries. Failure is the result of the interaction of many variables: some depend on the students themselves, some relate to factors in their homes and in the community environment, and others are specific to schools. Early school-leavers may drop out of school without finishing a course of study, or may finish the course but leave without the relevant qualifications. National data from WEI countries show the magnitude of both of these problems. In addition, the potential drawbacks of grade repetition, which in one country adds more than two years to the expected years of primary and lower secondary education, suggest that a reduction in grade repetition rates must remain a major policy objective in many WEI countries. Experiences from a number of WEI countries suggests that this can be a realistic goal.

The challenge, in this era of expanding, intensifying and diversifying demand for learning over the lifetime, is how best to meet the volume of demand while ensuring that the nature and types of learning respond effectively to needs. A broad range of policies – systemic, institutional and programmatic – are required. To be most effective, such policies need the support of the different actors involved in education: parents and students themselves; school leaders and teachers; social workers and educational authorities. Co-operation between agencies and collaboration between schools, families and communities, are required if appropriate frameworks are to be created to support children at risk, from birth through to their integration into the labour force.

Growing diversity in educational provision has been one of the policy responses to increasing variety in skill demands. Most WEI countries provide a range of programme types at least at the upper secondary level, including general, pre-vocational and vocational programmes. In addition, private schools now provide alternative teaching methods and curricula in many WEI countries, and help to serve the diverse needs, interests and abilities of the total student population. However, greater effort is required to facilitate transitions within education systems and between education and work. In the 21st century, success at school will no longer be solely measured by the number of years studied or by the attainment of a diploma for life. Rather, students will be expected successfully to complete different itineraries and to acquire the motivation to engage in lifelong learning. This will require a more flexible curriculum; smoother transition points throughout the schooling process, less rigid forms of evaluation and certification, and a pedagogy which meets the needs of all students.

Finally, the expansion of access to initial education has largely reached only the youth population, and the report shows that wide gaps have opened up in many WEI countries between highly qualified younger generations and less qualified older people. These intergenerational disparities, which already tend to be much larger than those in OECD countries, are likely to continue to rise as access to higher levels of initial education improves while opportunities for older generations to acquire formal qualifications remain scarce. Strategies for enhancing human capital formation thus cannot go on focusing exclusively on expanding provision and participation in initial education but should start before and finish well after it. Early childhood education and intervention programmes in primary school may be important elements in bringing about more equal opportunities in foundation learning and assisting children at risk. Similarly, in order to meet rising skill demands and to provide adequate job prospects for the entire labour force, an effective expansion of adult education, including continuing education and training at the workplace, will be of growing importance in WEI countries.

In the light of these factors, it is useful to examine the resources which WEI countries have for managing expansion, and the choices which they make as to how those resources are utilised. This is the theme of the following chapter.

Chapter 3

MOBILISING RESOURCES AND ENCOURAGING EFFICIENCY

INTRODUCTION

This chapter provides insight into spending patterns and government strategies for mobilising and deploying resources.

Education is an investment in human skills. It can help to foster economic growth and enhance productivity, contribute to personal and social development, and reduce social inequality. Like any investment, it involves both costs and returns. While many countries share ambitious goals for educating their citizens, they are constrained by the resources which they can allocate to promoting those goals. How effectively they employ the available resources will determine how far they succeed in realising their goals. Resources can be mobilised and deployed in a wide variety of ways and through various plans and strategies. The objective of this chapter is to provide some insight into the variety of spending patterns and strategies that exist in countries participating in the UNESCO/OECD World Education Indicators programme (WEI) for mobilising and deploying resources.

The chapter begins with an analysis of the resources invested in education, relative to national wealth, the number of students and the size of the public purse ...

The first section begins with three general measures of education spending: expenditure per student, educational expenditure as a percentage of Gross Domestic Product (GDP), and educational expenditure as a percentage of total public expenditure. Although each serves as an indication of a country's financial commitment to education, each takes into account different factors, such as number of students and national wealth, and therefore serves to analyse different issues.

... and an examination of the ways in which education systems are financed.

The first section then looks beyond aggregate data to examine ways in which countries use resources to support a particular type or level of education, encourage the participation of particular student groups, and prepare for future needs through capital investment.

The chapter concludes with an analysis of spending choices that countries make between teachers' salaries, teachers' qualifications, hours of instruction and student-teaching staff ratios.

The second section continues the discussion of countries' use of education funds by examining four measures often linked to educational quality and outcomes: teachers' salaries, teachers' qualifications, the number of hours of instruction per year, and student-teaching staff ratios. All of these measures represent investments of one sort or another. If funds are limited, devoting resources to one goal necessarily reduces the resources available for others. Thus, countries must make explicit or implicit spending choices between the four measures and others which are usually constrained by various economic, political and social parameters. Although the data available do not permit a comprehensive evaluation of the effectiveness of investment strategies, the chapter does allow participating countries to evaluate specific spending choices in the light of spending choices made by other countries which operate under similar conditions, and to examine the relationships between investment decisions and the patterns of participation and completion described in Chapter 2.

Ultimately, countries seek educational investment strategies that maximise their returns, commonly thought of as higher levels of student achievement and the benefits which knowledge brings to society and the economy at large. Finding these strategies, however, is no simple matter, and the knowledge base that can support policy development is far from perfect. Current outcome measures are neither fully reliable nor complete. Even if it were possible to quantify the benefits

of additional investments in a particular way, the relationship between inputs and outcomes would probably not be the same under varying conditions.

Finally, countries are often limited in the amount of resources that they have at their disposal and in the ways in which they may use them. International comparisons such as those given here can nonetheless be useful in helping policy-makers to operate within these limitations by contrasting their circumstances and decisions with those of other countries, some of which may be in similar situations.

■ INVESTMENT IN EDUCATION

Education is an investment in human skills that involves both costs and returns.

Effective schools require the right combination of talented personnel, adequate facilities, state-of-the-art equipment and motivated students ready to learn. There is little question that insufficient spending can compromise the quality of educational services if students are obliged to sit in overcrowded classrooms, to learn from under-qualified teachers, to make do with few or outdated materials, or to attend schools operating on reduced schedules. Once basic needs are met, additional funding has the potential to bring about further improvements in quality. At the same time, the demand for high-quality education, which can translate into higher costs per student, needs to be balanced against the need to expand access to education and to contain costs.

Patterns of spending

Expenditure per primary student varies widely, from less than PPP US$ 500 in India, Paraguay, the Philippines and Zimbabwe to PPP US$ 1800 in Chile...

WEI countries exhibit a fairly wide range of educational expenditure per student in public institutions (see Figure 3.1), but the figures are low by comparison with most OECD countries. Of the 10 WEI countries for which data are available, public and private expenditure on public educational institutions per student ranges at the primary level from less than PPP US$ 500 in India, Paraguay, the Philippines and Zimbabwe to PPP US$ 1800 in Chile.

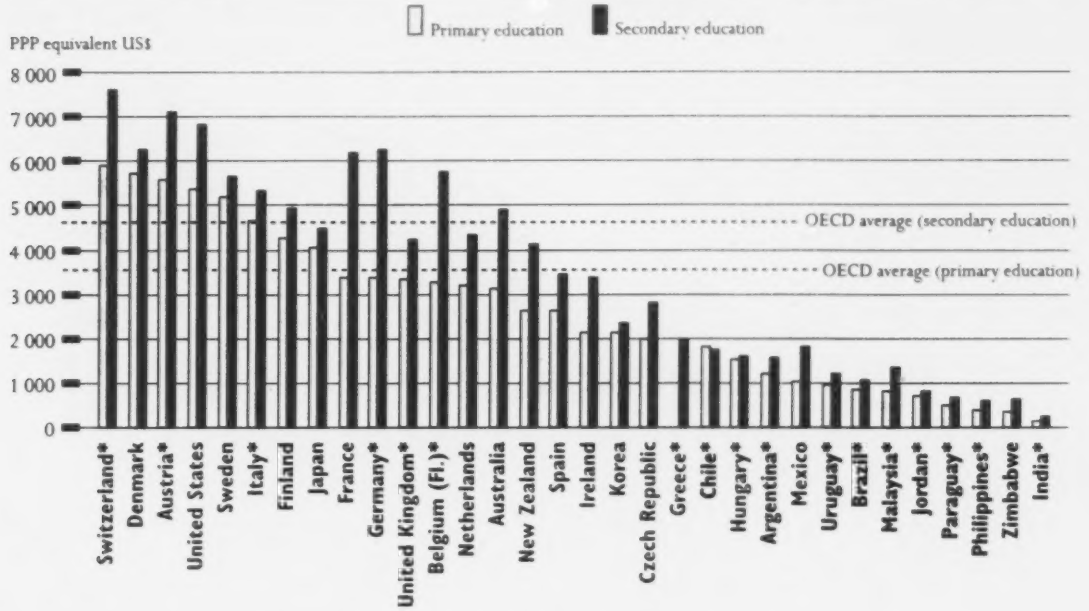
... even after differences between countries in purchasing power parities are taken into account ...

These comparisons take into account differences between countries in purchasing power parities (PPPs). The PPP exchange rate gives the amount of a national currency that will buy the same basket of goods and services in a given country as the US dollar will in the United States. It should be noted, however, that differences in national price levels for educational services, in so far as they deviate from overall price levels accounted for in the purchasing power parities used for this indicator, may still affect the differences in expenditure per student between countries.

... but there is a common pattern: expenditure per student rises sharply with the level of education and is dominated by personnel costs.

Expenditure per student follows a common pattern throughout WEI countries: it rises sharply with the level of education and it is dominated by current expenditure. This pattern can be understood by looking at the determinants of expenditure, particularly the place and mode of educational provision. Education still takes place predominantly in traditional school and university settings with – despite some differences – similar styles of organisation, curriculum, teaching and management.

Figure 3.1
Expenditure per student, primary and secondary education (WEI: 1997, OECD: 1995)



* Public institutions only.
Source: OECD. For data and notes, see Annex.

The labour-intensiveness of education accounts for the predominance of teachers' salaries in overall costs.

The labour-intensiveness of traditional education accounts for the predominance of teachers' salaries, and therefore current expenditure, in overall costs. Differences in student-teaching staff ratios, staffing patterns, teachers' salaries, teaching materials and facilities largely account for the cost differences between levels of education, types of programme, and types of school. Furthermore, pay scales based on qualifications and automatic increases make personnel costs rise over time.

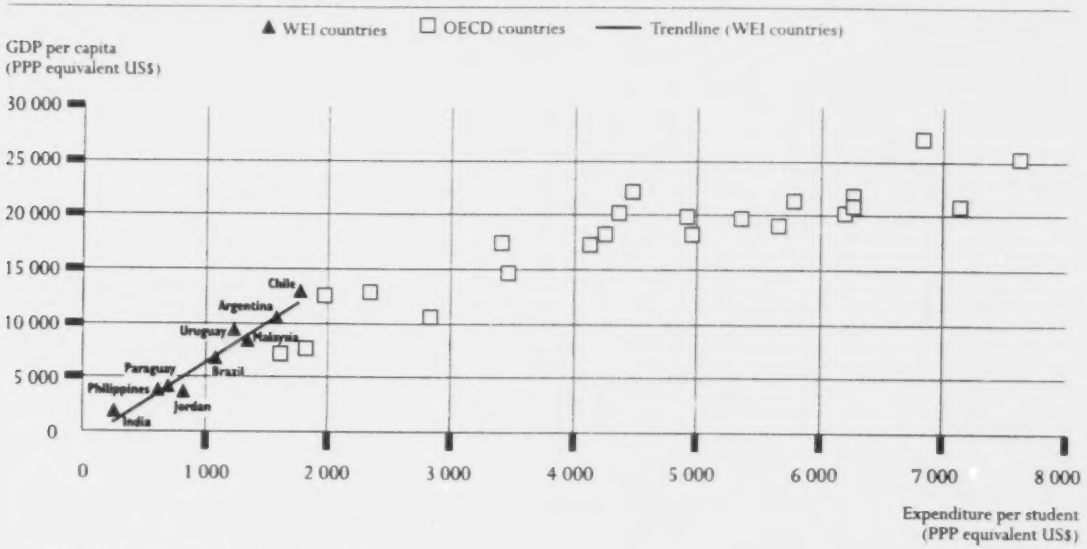
The relative standing of countries changes when their spending capacity is taken into account ...

Investments in education should also be considered in the light of countries' spending capacity. For example, at PPP US$ 706, Jordan spends less than the average WEI country and far less than any OECD country per primary student. But if spending per student is compared in relation to GDP per capita, the value for Jordan is, at 20.5 per cent, above the OECD average of 19.4 per cent, and well above the proportion of GDP per capita spent per primary student by any other WEI country.

... but there is a clear positive relationship between spending per student and average national income.

As might be expected, there appears to be a clear positive relationship between spending per student and the size of the average national income, as measured by GDP per capita (see Figure 3.2). The relationship levels off, however, as national income increases, which can be seen if OECD countries are included in the picture.

Figure 3.2
GDP per capita and expenditure per student in public secondary education (1997)



Source: OECD. For data and notes, see Annex.

Lower spending per student should not automatically be equated with lower outcomes.

Also, lower spending per student should not automatically be equated with lower educational outcomes. Focusing solely on financial inputs would miss out on other opportunities for improving student outcomes. A study undertaken by the UNESCO Regional Office in Latin America found that the school's culture, teachers' attitudes and classroom practices also had a strong influence on student outcomes, whether these are measured in terms of achievement test scores or grade completion (see box).

Since the social returns from educational services are higher than private benefits alone, markets may fail to provide these services adequately.

Since the social returns (including both private and public benefits) from a particular service are higher than the private benefits alone, markets may fail to provide these services adequately. Education is one area where all governments intervene to fund or direct the provision of services, not least to ensure that education is not beyond the reach of some members of society. Education, however, must compete for public funds against a wide range of other areas covered in government budgets. The proportion of a government's budget that is devoted to education is a function of the perceived value of education relative to that of other public investments, including health care, social security for the unemployed and elderly, defence and security, etc. Governments can fund education primarily either through direct transfers to educational institutions or through public subsidies to households and other private entities. Obviously, the volume of public spending on education is also influenced by the volume of private funding directed at education as well as by the overall amount of public funds available and the scope of public sector budgets.

Schooling Outcomes in Latin America

A study completed this year for the UNESCO Regional Office in South America attempted to determine school-level and background factors that are correlated with student achievement across Latin America (see Willms *et al.*, 1999). The study used data from the International Comparative Study of language and mathematics achievement (PEIC), which was conducted in 13 Latin American countries in 1996. It entailed achievement testing of over 50 000 third and fourth-grade students, and the administration of comprehensive questionnaires to students and their parents, teachers and school administrators. The questionnaires included questions concerning schooling infrastructure, class size, teachers' experience and qualifications, and availability of teaching materials. They also collected data on a range of other factors depicting the culture of schooling, such as parental involvement, teachers' attitudes, principals' autonomy, and the learning climate of each school.

One of the major findings of the study was also that students from "mega-cities" (cities with more than one million inhabitants) achieved higher scores in the tests than students from smaller urban areas who, in turn, achieved higher scores in the tests than rural students. There were also large differences between students attending private and public schools.

Overall, the study found that focusing solely on increasing school resources would miss out on other opportunities for improving student outcomes. Generally, higher levels of school resources were correlated with higher levels of outcomes, after students' family backgrounds were taken into account. However, the culture of the school, teachers' attitudes and classroom practices also had a strong influence on student outcomes. Factors that were found important in improving outcomes included:

- Classes with a strong disciplinary climate and a high level of parental involvement;
- Teachers who were satisfied with their salaries and did not attribute students' success or failure to family background;
- Principals with a high degree of autonomy; and
- Schools which place an emphasis on regular evaluation and do not group students by ability.

There are policy implications in these findings. Firstly, some school systems lacking in resources appear to have other methods for improving student outcomes at their disposal, methods that involve teachers' attitudes, classroom practices and school organisation. Secondly, while resources can be increased by the provision of more money for education from outside the school system, these other factors can only be addressed from inside the system.

Source: Schooling Outcomes in Latin America, 1999: A Report for UNESCO prepared by J. Douglas Willms and Marie-Andrée Somers, Atlantic Center for Policy Research, University of New Brunswick in co-operation with the Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación.

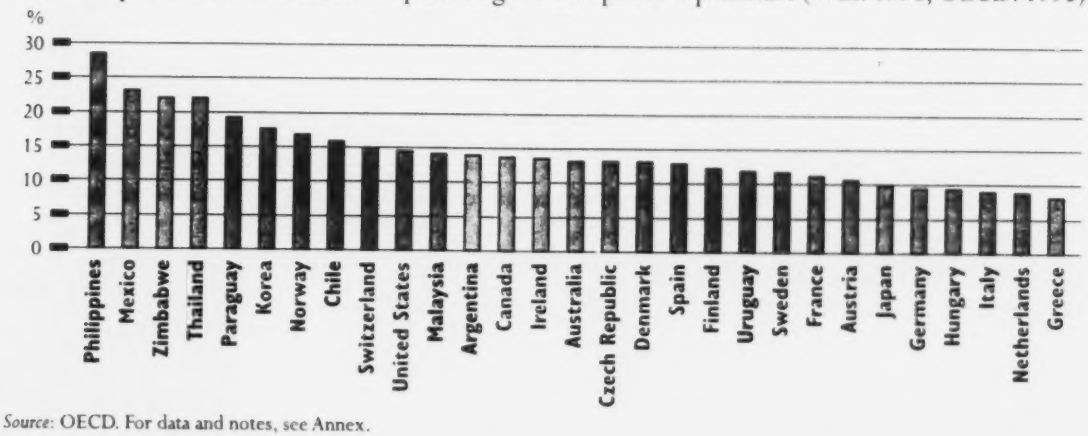
The proportion of public resources which WEI countries invest in education ranges from above the highest to below the OECD average.

It can be seen from Figure 3.3 that WEI countries show a wide range in terms of the proportion of public resources invested in education, from above the highest value among OECD countries to below the OECD average. Four of the top five countries on this measure (the Philippines, Zimbabwe, Thailand and Paraguay) are WEI countries and, with one exception, all WEI countries invest a higher proportion of their public budgets in education than the average OECD country. This is evidence of the high priority given to education in public policies in WEI countries but, as Figure 3.1 shows, this does not always translate into satisfactory levels of spending per student.

The higher the enrolment, the more thinly a limited education budget must be spread...

One important factor influencing spending per student is the number of students enrolled: the more students there are in the population, the more thinly a limited education budget must be spread. Conversely, the smaller the student population, the greater are the resources that can be devoted to each individual student. The Philippines has a relatively large number of students enrolled in its population and a relatively low level of expenditure per student. In contrast, other countries with relatively small student populations, including Uruguay, have relatively high expenditure per student. The relationship between student population and spending per student will not be the same in all cases, however, as small student populations can be the result of a variety of factors. For example, if a relatively small student population is the result of low enrolment rates, governments may choose to devote additional resources to encouraging and supporting school participation, and to increasing expenditure per student. In reaction to the economic crisis in Asia, for example, the governments of Indonesia and Thailand have undertaken additional financial initiatives to ensure that students are able to remain in school, primarily by providing financial assistance to needy students (The World Bank Group, *Social Crisis in East Asia*, 1999). On the other hand, if a government considers that basic educational needs are being met, a smaller student population at higher levels of education may allow a country to shift resources to other social priorities.

Figure 3.3
Public expenditure on education as a percentage of total public expenditure (WEI: 1996, OECD: 1995)



Source: OECD. For data and notes, see Annex.

... and the larger the youth population, the greater the potential demand for education.

Not only the size of the student population, but also the relative size of the youth population shapes the potential demand for initial education and training. The larger the number of young people, the greater is the potential demand for educational services. Among countries of comparable wealth, a country with a relatively large youth population (such as Brazil or Malaysia) would have to spend a larger percentage of its GDP on education than a country with a small youth population (such as Thailand or Uruguay) if it wished each young person to receive the same quantity of education. The data in Tables 1 and 23 in the Annex, taken together, illustrate this pattern. However, it needs to be taken into account that institutional arrangements are often slow to adapt to changing demographic conditions. For example, a declining number of students at the primary level may lead to higher unit costs at that level if school facilities and teaching resources are not reduced accordingly.

Access to education is improving in many countries but the right balance must be found between expanding systems and improving the quality of education.

This examination of expenditure on education by reference to the size of the school-age population also points to a broader trade-off between expanding access to education and increasing the quality of teaching (for which expenditure per student is used as a proxy here). Every country has limited resources and must make choices as to how those resources are deployed. As shown in Chapter 2, WEI countries have been very successful in expanding access to education in recent years. One of the most difficult policy decisions lies in how to expand access while maintaining high standards in teaching. It is unlikely that public resources alone can finance the rapidly increasing demand for education, both in terms of the number of new student places needed and the necessary improvements in the quality of educational provision.

New policies need to be designed which allow the various actors and stakeholders to participate more fully and to share the costs and benefits of education more equitably.

With increased participation in education drawing from new client groups, and a wider range of choices concerning what, when, how and where to learn, governments will need to forge new partnerships with the providers and beneficiaries of education in order to mobilise the necessary resources, to encourage efficiency and to introduce the flexibility needed if everyone is to pursue the pathways and learning opportunities which best meet their needs. New policies need to be designed which allow the various actors and stakeholders to participate more fully and to share the costs and benefits of education more equitably. Non-public institutions, such as private businesses, may increasingly pay for the training of existing workers or may provide resources to educational institutions either through partnership arrangements or through more general support for the education system. Students and their families may also be asked to spend more money on education, *e.g.* in the form of tuition fees at private institutions.

In short, no single sector can have a monopoly on investing in education. The investments made by individuals, families, enterprises and public authorities all help to raise the stock of human capital. Investment by governments is most appropriate where public benefits are likely to be high, while individuals and enterprises need to take significant responsibility for learning which has high private returns. Different learning experiences may be mutually reinforcing, and many lead to a combination of public and private gains. Partnerships are needed that match shared interests with shared

investments. Calculations of public and private rates of return, which will be undertaken during 2000 for WEI countries on a comparable basis, can help to clarify whether existing patterns of cost-sharing are appropriate.

In areas such as tertiary education, where investments are primarily public but large private gains accrue, cost-sharing may need to be adjusted ...

In areas such as tertiary education for young people, where investments in many WEI countries are primarily public but large private gains accrue, it is legitimate to ask whether the pattern of cost-sharing should be adjusted. If adjustments are made, however, due account will need to be taken of existing private costs (such as forgone earnings) and public benefits (such as spin-off social gains), which are not always fully reported.

... although public gains from private investments in education, such as increased tax revenues or spin-off effects on economic growth need to be recognised.

Conversely, for investments such as enterprise-based training that are currently financed primarily by the private sector, public gains from increased tax revenues or spin-off effects arising from economic growth need to be recognised. Better measurement of these benefits will help governments to evaluate the case for public support for such training where markets alone fail to invest sufficiently. Where cost-sharing creates the need for active partnerships, many non-financial issues arise. Governments in WEI countries need to review their strategies for building up the effectiveness of partnership ventures, and to consider how they can play supportive roles when they are not the lead partner.

One way to benchmark the total national educational financial "effort", is to calculate direct expenditure on educational institutions as a percentage of GDP.

It is difficult to assess what level of investment in educational institutions best meets the needs of an economy and a society. However, governments are bound to make judgements about whether enough attention is being devoted to certain strategically important areas of education and learning, as well as whether the skill level of the population is sufficient. One way to benchmark the total national educational financial "effort", is to calculate direct expenditure on educational institutions as a percentage of GDP (see Figure 3.4). This indicator takes into account all spending from both public and private sources and uses GDP rather than public expenditure to mediate the influence of the size of the economy, since its scope is not limited to government expenditure.

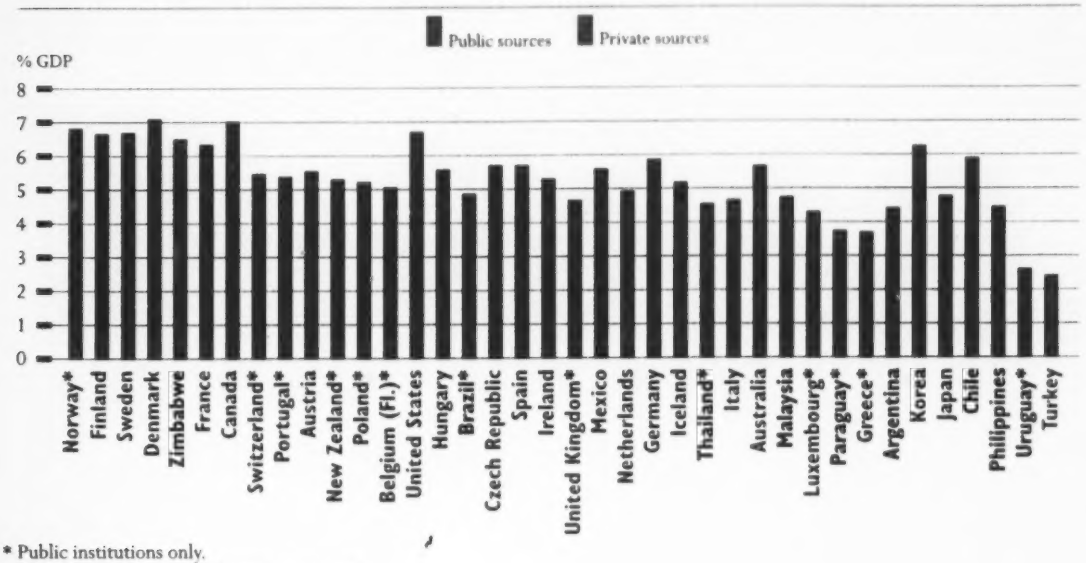
All WEI countries invest a substantial proportion of national income in education, although generally less than OECD countries.

The indicator shows that all WEI countries invest a substantial proportion of national resources in education. Zimbabwe ranks highest among the ten WEI countries supplying data, with expenditure on education equivalent to 6.5 per cent of GDP, a figure higher than the average of OECD countries, 4.9 per cent. Other WEI countries rank lower on this measure, with the Philippines and Uruguay spending 3 per cent of GDP or less on educational institutions.

There is no absolute standard for the level of investment needed to meet a country's needs ...

It is important to recognise that in this case countries are being compared with one another and not with an accepted standard minimum level of expenditure, either in relation to the number of students, total public expenditure or GDP. Thus, while the comparisons presented here allow examinations of countries' financial efforts in the light of those made by other countries, they do not answer the question of whether those efforts are adequate.

Figure 3.4
Educational expenditure from public and private sources as a percentage of GDP, by source of funds (WEI: 1997, OECD: 1995)



* Public institutions only.
Source: OECD. For data and notes, see Annex.

It must be taken into account that many factors influence the relative positions of countries on this measure. High-expenditure countries may have a relatively large youth population or higher rates of enrolment, while low-expenditure countries may either be very efficient in delivering education or be limiting access to higher levels of education; the distribution of enrolments between sectors and fields of study may differ, as may the duration of studies.

... as demographic demand, enrolment rates and the effectiveness of educational delivery influence spending levels.

Patterns across countries, and over time in the same country, can be useful in identifying potential strains on resources and the need for policy interventions. The experience of several WEI countries in recent decades has demonstrated the challenges brought about by expansions in enrolments without corresponding changes in funding. For example, in Sri Lanka, the numbers of students, teachers, and schools increased dramatically in the decades following independence in 1948. During this time, however, the percentage of GDP devoted to education actually decreased, leading to a multiplicity of problems in providing equal educational opportunities. Thus, it is important that as countries encourage participation in the education system, they also identify strategies for delivering more resources for education.

Where there appears to be under-investment in human capital – in a country as a whole, in particular localities or in key sectors of the economy – there is a range of options that governments might take other than directly providing educational programmes. Options to be explored include, for example, re-examining taxation systems in order to give further incentives to individuals and enterprises to invest in education.

Re-examining taxation systems may be one way to provide incentives to individuals and enterprises to invest in education.

Priorities within education budgets

Improving the efficiency of education systems has also to do with the nature of investments.

The measures mentioned above can help to provide a general overview of spending on education. They do not, however, account for different functional categories of education spending or differential spending on geographic or social groups, such as extra support for students from poor families or programmes to meet the demand for technical skills. Countries with similar levels of national expenditure or expenditure per student may in fact have very different profiles at a more detailed level. Improving the efficiency of education systems is also to do with the nature of investments.

Some WEI countries have introduced market-based incentives, bringing to bear the forces of competition in order to enhance school and teacher performance.

In order to encourage the efficiency of school systems, some WEI countries have introduced market-based incentives into education systems, bringing to bear the forces of competition in order to enhance school and teacher performance, to enable parents to choose their children's school and to encourage the development of innovative and effective educational programmes. Chile is drawing on all three of these approaches: *i)* a national system of performance evaluation for government-funded schools (Sistema Nacional de Evaluación del Desempeño de los Establecimientos Educacionales Subvencionados, SNED), which provides merit awards to teachers on the basis of the added value which their school creates in terms of aggregate student outcomes (added value is calculated by benchmarking achievement against the socio-economic intake of the school); *ii)* a voucher system which provides government-dependent private schools with the same financial resources as public schools and *iii)* a comprehensive standardised testing system (Sistema de Medición de la Calidad de la Educación, SIMCE), which assesses key learning outcomes regularly at different grade levels and allows the calculation of changes in school-level performance between successive applications (see box).

Balancing present and future needs

Countries where educational participation is rising must balance the needs to meet current expenses and to prepare for future growth.

Countries where educational participation and completion are rising are faced with the challenge of balancing the need to meet current expenses with the need to prepare for future growth. WEI indicators allow the classification of expenditure into two related categories, current expenditure and capital expenditure. Current expenditure is that on goods and services consumed within the current year, and has to be made recurrently in order to sustain the production of educational services. Capital expenditure is that on assets which last longer than one year, including outlays on construction, renovation and major repairs of buildings, and on new or replacement equipment. Countries expecting a large growth in student populations are likely to feel pressure to devote more resources to capital expenditure. This usually occurs with no relief from the pressure to meet obligations to the current student population, especially if the current population is larger than in previous years.

Chile's System of Merit Awards to Schools

Governments seek effective policies to improve the efficiency and effectiveness of school systems. Some countries have introduced market-based incentives into education systems, bringing to bear the forces of competition in order to enhance the performance of schools and teachers, to enable parents to choose their children's school and to encourage the development of innovative and effective educational programmes. Common approaches include *i)* systems of rewards for excellence which can include "merit pay" for teachers or schools; *ii)* systems offering "choice" that provide alternatives to publicly provided education; and *iii)* systems of external standards and evaluation that provide a yardstick for measuring how well schools are performing.

Chile is drawing on all three of these approaches: *i)* a national system of performance evaluation for government-funded schools (Sistema Nacional de Evaluación del Desempeño de los Establecimientos Educacionales Subvencionados, SNED) which provides merit awards to all teachers in a school on the basis of student outcomes; *ii)* a voucher system which provides government-dependent private and independent private schools with the same financial resources as public schools (voucher payments being based on the number of students actually in attendance); and *iii)* a comprehensive standardised testing system (Sistema de Medición de la Calidad de la Educación, SIMCE) which assesses Spanish and mathematics skills every two years for students at grades 4 (in even years) and 8 (in odd years) and which allows the calculation of changes in average SIMCE scores for a school between successive applications.

The SNED evaluation programme, established in 1995, has carried out two rounds of measurement and awards since its inception (1996-97 and 1998-99) and is making preparations for the third round of measurement and awards for 2000-2001. It provides financial merit awards to schools which are then used to pay bonuses to teachers. The awards are based on a school's performance as measured by an index which includes the absolute levels of SIMCE test scores and improvements since the last SIMCE tests, as well as other indicators of educational outcomes and a few process measures. Awards are made to the schools in each of a number of socio-economic strata which achieve the best performance, so that competition is between relatively comparable schools. Any municipal or government-dependent school is eligible to win an award, and may win in successive evaluations. That is to say, SNED awards are fully competitive. Data come from the SIMCE tests and a questionnaire administered to parents at the time when the tests are administered, a special survey carried out for the purpose of SNED, a report associated with subvention or subsidy payments to the school, and the Ministry of Education statistics unit. The index of school excellence includes the following six factors, in which outcomes weigh heavily.

The indicators used in calculating scores for each factor have equal weight and are combined to obtain the school's rating in terms of each factor. There were changes in the indicators used to evaluate each factor between the 1996-97 and the 1998-99 applications of SNED. The system continues to be subject to alteration as changes in external circumstances or in policy priorities occur. The factors themselves are then weighted according to a scheme that reflects current policy objectives.

An important aspect of the SNED system is that it establishes competition between schools that are roughly comparable in terms of the student populations that they serve, the socio-economic levels of the communities in which they are located, and other external factors that affect student outcomes. This is achieved as follows.

First of all, schools are divided into four categories: urban basic and rural basic (primary) schools, and urban secondary and rural secondary schools. There are sub-groups of schools within each category that are evaluated on the basis of different criteria: rural primary schools with single teachers or multi-grade teaching, adult education schools, and free-standing pre-schools. The evaluation criteria are complex and differ depending on the type of school and level of education.

Next, schools within each of the main categories are divided into "homogeneous groups" on the basis of statistical cluster analysis. This analysis considers variables that influence the schools' performance but are outside their control, such as average family expenditure on education, level of education of the parents, type of community, physical accessibility of the school and an "index of vulnerability" compiled by the agency responsible for distribution of scholarships and student aid (Junta Nacional de Auxilio Escolar y Becas, JUNAEB). The vulnerability index classifies the community served by the school according to the socio-economic level of its families. Schools are grouped using cluster analysis. This is a statistical method that takes into account the socio-economic and location variables for each school and, on this basis, groups the schools by minimising the distance between the internal characteristics of each group and maximising the distance between groups. The key concept in this method is that of distance, which in statistics is associated with variance.

SNED then establishes homogeneous groups within each of Chile's 13 regions in each of the categories above (urban basic, rural basic, and urban and rural secondary). Breakdown by region means that there is even greater similarity between schools in each stratum or comparison group than would be the case if the grouping process were nationwide.

SNED ranks schools within each group according to their scores on the index and gives awards to schools in rank order, down to the point at which the enrolment in the winning schools accounts for 25% of the enrolment in that group. Award funds can be used only for bonuses for teachers (including head teachers or school directors). Ninety per cent of the funds are distributed on the basis of the number of hours which a teacher works in the school. This is considered the most equitable basis for distributing awards, especially for secondary schools, where teachers may work less than a full day in a particular school. If primary school teachers in a school all work full time, the awards to each are equal. The school director may allocate the remaining 10% to the teachers who have made the most "outstanding" contribution to professional performance. Some documents indicate that the distribution of this final 10% is based on decisions of "the education professionals in the school."

Approximately 31 000 teachers have received bonuses in each of the first two rounds of SNED awards. The average amount of the bonus per teacher per year was 225 000 Chilean pesos in 1999. The relatively low monetary value of the awards has the effect of keeping the SNED process from becoming too much of a "high-stakes" exercise. This in turn is intended to avoid opportunistic behaviour on the part of the teachers, such as focusing most of their attention on only those subjects that will be considered by SNED.

Winning schools are identified every two years. SNED makes award payments once each quarter during the two-year period. The number of schools that won awards was 2 285 during the first two-year period, decreasing to 1 826 during the 1998-99 SNED exercise. Total payments have increased slightly each year, reflecting both an overall increase in enrolment and a modest adjustment for price changes. The total payment in 1998 was 6 493 million Chilean pesos (roughly US$ 16.2 million) or approximately 1% of the total amount of payments to municipal and private schools receiving the voucher payments.

It is important to note that the general attitude of school directors toward the SNED system has been positive. This includes directors of both schools that won awards and those that did not. The directors, whose point of view reflects their management functions, see the SNED evaluation system as a way of recognising differences in the performance of schools. The design of the system is generally satisfactory, in their view, although they are somewhat concerned about the heavy emphasis accorded to SIMCE scores through the combined weight of the *effectiveness* and *improvement* factors in the SNED index. In this context some directors express the view that certain schools practise selection of students (even though this is against regulations and the SNED system itself penalises such behaviour). Virtually all directors approve of the system of awards to schools rather than to individual teachers, indicating that this strengthens the importance of teamwork among teachers in a school.

Source: Ministry of Education (1998): Vivian Heyl and Marcela Guzman, "Evaluación del Desempeño: SNED", Cuadro N. 1, p. 8, Santiago, Chile: Ministry of Education.

Specifications of Factors and Indicators Used in the SNED Index, 1998-99

FACTOR	INDICATORS
Effectiveness	– Average SIMCE scores in cognitive areas (Spanish & mathematics). – Integration of children with special needs into working life, with follow-up. – Mainstreaming of students with special education needs in regular classes, with follow-up.
Improvement	– Change in SIMCE scores, cognitive areas, since last application.
Initiative	– Establishment of Council of Teachers with meetings at least once a month. – Monthly participation of rural teachers in micro-centre meetings. – Introduction of "technical-pedagogical" activities in groups at least once a month. – Establishment of a Students' Centre with meetings at least once a month. – An institutional plan ("proyecto educativo") for medium to long-term development. – Arrangements with local employers to aid entry of students with special education needs into employment. – Teaching practices that include work experience for students with special education needs. – Development of teachers' workshops.
Improvement in Working Conditions	– Full complement of teachers. – Use of substitute teachers when regular teachers are absent.
Equality of Opportunity	– Rate of retention of students. – Rate of promotion of students. – Differential grouping to help special needs students. – Absence of discrimination (*e.g.* expulsion of students who repeat, of students who become pregnant, or expulsion of students during the school year). – Incorporation of students with special education needs.
Integration of Teachers, Parents and Guardians	– Parents and guardians satisfied with ("accepting") the work of the teachers. – Establishment of a Parents' Centre.

Countries with a growing youth population tend to devote a larger proportion of education budgets to capital expenditure.

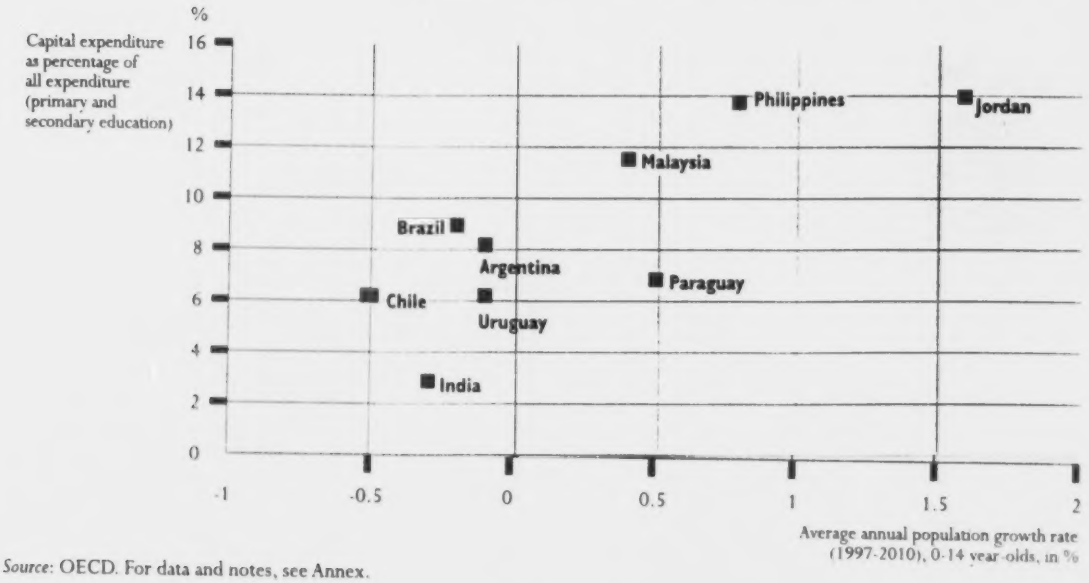
Not surprisingly, the countries with higher annual growth rates in the youth population tend to devote a relatively larger proportion of their education budgets to capital expenditure (see Figure 3.5). At one extreme, Jordan, which has the highest population growth rate among WEI countries, devotes the largest proportion of its education budget, 14.0 per cent, to capital expenditure. At the other extreme, India, whose 0 to 14 year-old population is predicted to decrease by 0.3 per cent per year during the period 1997-2010, devotes only 2.8 per cent of its education budget to capital expenditure. Although India's distribution fits the overall pattern whereby countries with low potential student populations spend less on capital expenditure, its proportion of capital expenditure is less than would be expected by analogy with the patterns in other WEI countries.

Although the definition of "sufficient" levels of spending depends on each country's individual circumstances and educational goals, it is possible that a given level of capital investment may not be sufficient to maintain current teaching capacity. This chapter includes two indicators related to issues of teaching capacity – student-teaching staff ratios and annual hours of instruction – which can be used to develop initial profiles of the level of educational services provided in each country.

Capital investment in education and student-teaching staff ratios tend to be negatively related.

Evidence from seven WEI countries which report data from which both expenditure per student and the proportion of education spending devoted to capital investment can be calculated shows another important relationship (see Annex Tables 21 and 27). At both the primary and secondary levels there is a

Figure 3.5
Population growth and capital expenditure (1996)



Source: OECD. For data and notes, see Annex.

clear and strongly negative correlation between the two indicators. This implies a "trade-off" between investment in the present and investment in the future. Countries that invest more in current students devote relatively fewer resources to capital investment (and thus to future students), and *vice versa*.

Particular levels of education

Countries face varying demands for the different levels of qualifications and must make corresponding investment choices.

All countries face a combination of demands for different levels of qualifications, so that they have to make funding decisions which they believe to be the most suitable balance. However, evidence on rates of return shows that a given amount of investment will not always produce the same level of return. One important decision which each country must make concerns balancing investments between the different levels of education. For example, a country giving priority to ensuring a basic level of knowledge among all its people may focus more resources on primary or lower secondary education, whereas a country facing a shortage of people with higher technical skills may choose to focus more resources on upper secondary and tertiary education.

Generally, countries tend to invest more in higher levels of education ...

Figure 3.6 shows spending by level of education alongside the proportion of the total student population enrolled at each level in five WEI countries. The general pattern across the five countries is that the percentage of education expenditure devoted to lower levels of education is less than the percentage of students enrolled, while the percentage of expenditure devoted to higher levels of education, especially tertiary, is higher than the percentage of students enrolled.

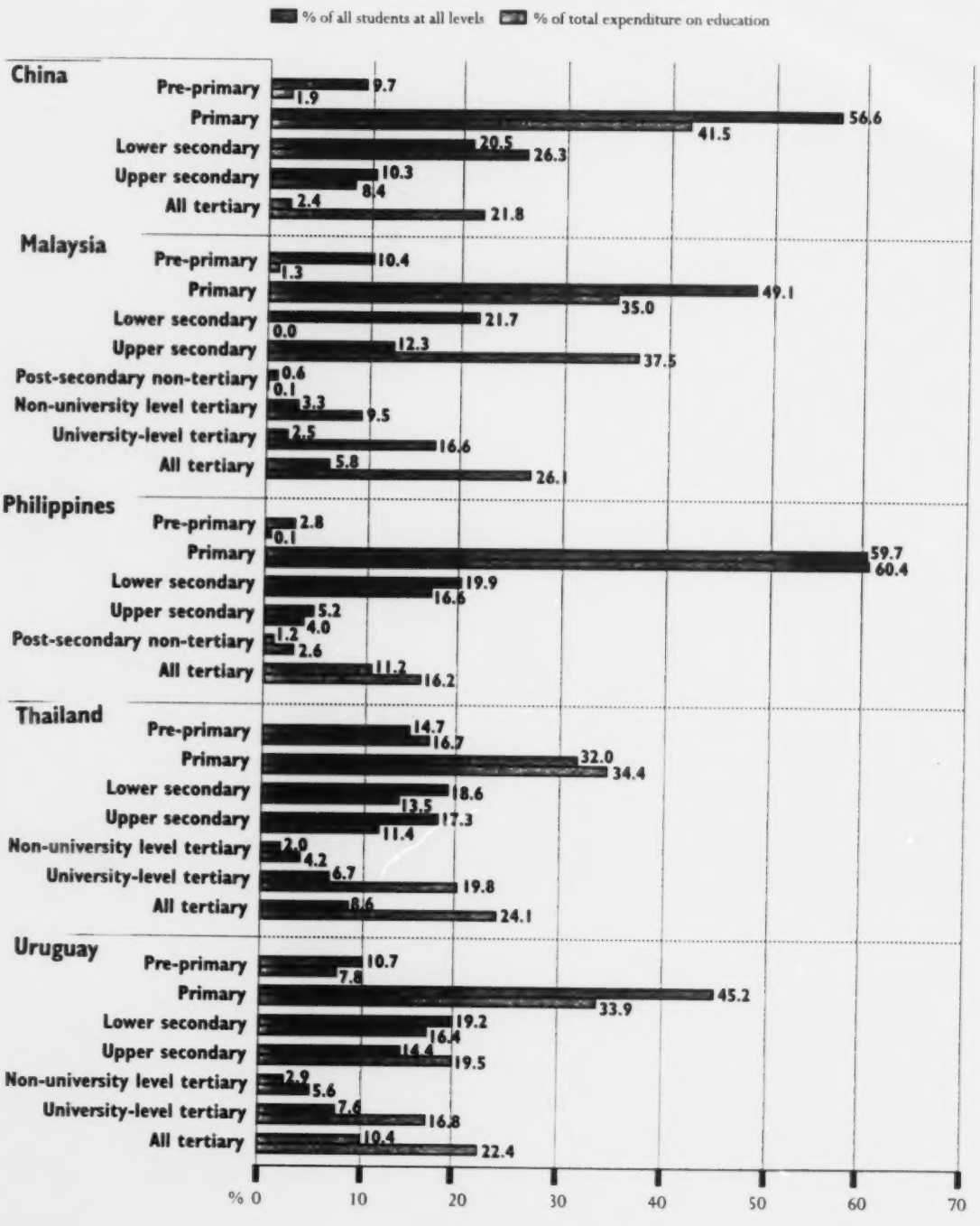
... which is, in part, a reflection of current cost patterns.

The disproportionately high spending at the tertiary level is partly a reflection of current expenditure patterns at that level: teachers' salaries are higher and needs for equipment and learning materials are greater. Also, grants and scholarships are more common at higher levels. Furthermore, it may be less expensive to provide primary than tertiary education because of economies of scale associated with the much higher participation levels in the lower grades, and because tertiary students may have greater transportation and housing costs since they are more likely to attend an institution farther from their homes.

But the relative emphasis on tertiary education differs strikingly among WEI countries ...

Figure 3.6 identifies those WEI countries devoting relatively more of their resources to the tertiary level. Most strikingly, China devotes 21.8 per cent of its education expenditure to the tertiary level (although this picture may be distorted by various types of local expenditure on primary and secondary schools that are not yet accounted for in WEI data collection), even though that level accounts for only 2.4 per cent of all enrolled students. Malaysia and Thailand also devote relatively large proportions of their education budgets to the tertiary level, in relation to the percentage of students enrolled. In Malaysia, more detailed data are available which indicate that although spending on vocational and occupationally oriented tertiary programmes (ISCED 5B) is higher than is proportionate to the number of

Figure 3.6
Proportion of enrolments and expenditure, by level of education



Source: OECD. For data and notes, see Annex.

students, academically oriented programmes (ISCED 5A and 6) receive proportionately an even larger share of funding.

... and it is not always clear whether the emphasis on tertiary education will maximise overall returns to educational investment.

Existing indicators on the rate of returns to investment in education are not yet sufficiently advanced to be presented in this publication on a comparative basis. However, the data that exist do provoke salient questions. For example, the high individual gains associated with participation in tertiary education, when set against their high costs and forgone earnings, do not necessarily yield the highest returns. Some research indicates that individual and "social" rates of return are frequently inferior to those associated with completing upper secondary education. Neither is it obvious why some countries, such as Argentina, Brazil or Malaysia, spend around 10 times or more per student on tertiary education than on primary education, whereas in others the differentials are much smaller (see Annex Table 21).

Public financial support can be channelled to tertiary institutions in a variety of ways.

The promotion of institutional variety and provision of public funds at the tertiary level represent policy decisions. Moreover, public support for tertiary education can be provided through direct expenditure on public institutions or through public subsidies for students' attendance at private institutions. Either way, countries providing relatively high public funding for tertiary education indicate that having a cadre of people with high levels of skills and knowledge is an important national need that may not be met – or may not be met equitably – if it is left to students and their families alone to finance their participation.

Private schools

Governments can support institutional diversity by providing financial support to private schools.

Private schools with connections to religious institutions, a specific academic or vocational orientation, or a particular educational philosophy, may provide alternatives to typical public schools. The government may judge it to be in the national interest to ensure the existence of these alternatives. One indication of a government's support for alternative types of school is the degree to which it provides financial support to private schools. Although private schools exist in all WEI countries, the proportion of government education funds which they receive varies widely from country to country.

The prevalence of private schools varies among WEI countries, as do their funding mechanisms.

In some countries where there are relatively few private institutions, such as China and Malaysia, government expenditure on private institutions is either very low or non-existent (see Annex Table 29 for those countries for which comparable data are available). In the Philippines, there is no government expenditure on private primary and secondary institutions, even though a significant number of primary and secondary students attend private schools (13.8 per cent). Significant government support for private institutions is found in Chile and India, where the proportion of government expenditure on primary and secondary educational institutions that goes to private institutions is 33.0 and 32.1 per cent, respectively.

Spending targeted to certain populations, such as the rural and the poor

Governments must overcome the various barriers that prevent many students from benefiting from educational opportunities ...

One common priority of education ministries is to overcome the various barriers that prevent many students from benefiting from the education system. While opportunities may exist, not all students can take advantage of them equally. Poor families may require their children either to help at home or to work outside the home in order to bring in needed income. Many schools also charge fees, whether for tuition or for expenses such as materials, textbooks or lunch, which some families are not able to afford. Potential students living in rural areas may have their opportunities limited by the distance to the nearest school, especially at secondary and tertiary levels. Travelling long distances or moving away from one's family to attend school translates into additional difficulties and costs that students in more populated areas do not face. In addition, in countries where a significant portion of school funding comes from local or regional governments, there can be wide variation in the quality of schools within a country. To ensure the continued participation of students from low-income families and rural areas, and the quality of schools in high-poverty areas, governments may wish to target funding to these students and schools.

... and WEI countries pursue different policies towards this goal.

Some WEI countries report having special funding initiatives targeted to poor students and schools, and to rural areas, which are often also areas of high poverty. Argentina has launched an initiative known as the *Social Plan,* which provides funding to schools in poor areas all over the country for construction, educational materials and teacher training. The country has also organised a National Fellowship Programme, which provides bursaries to students attending lower secondary schools in poor areas. Brazil targets funding to rural areas of high poverty through its *Northeast Project*. Its aim is to invest substantial resources in municipal and state programmes to reform and build schools, train teachers and buy equipment for schools. The project also includes resources for research activities aimed at analysing the complex interrelationship between economic, social and cultural factors in education. China has established centralised funds specifically for poverty-stricken areas in order to support improvements to school buildings and purchases of equipment and educational materials. As mentioned above, the governments of Thailand and Indonesia have established special funding initiatives to maintain participation among poor students during the recent Asian economic crisis. And in 1990, Chile established a programme to improve the quality of primary and lower secondary education in poor areas. It provides technical and material support, such as consultations with teachers and administrators, to the ten per cent of schools with the lowest achievement and the highest poverty.

■ TRADE-OFFS AND INVESTMENT CHOICES IN THE CLASSROOM

With limited education budgets, governments must make difficult decisions on how to invest their resources. Every sum invested in one particular purpose

is money that cannot be invested in any other purpose. For example, if a government decides to hire more teachers in order to reduce class sizes, less money will be available for teaching materials, teacher training or school building within the same budget (unless teachers' salaries are reduced, in which case the quality of teaching may suffer if some able teachers leave the profession). Conversely, a government may attempt to make do with fewer teachers if it believes it can attract more qualified teachers through higher salaries made possible by the savings from employing fewer teachers. It may also choose to decrease annual hours of instruction if it believes that it can compensate for lost time by increasing quality through smaller classes or lighter teaching burdens.

With limited education budgets, governments must make difficult decisions on how to invest their resources.

The combinations of choices are numerous and, given the economic, demographic, and cultural diversity among the WEI countries, it is natural to expect a similar diversity of investment decisions. Since attempts to quantify the returns – in terms of student outcomes – of each investment decision produce rough estimates at best, governments must try to maximise the efficiency of their education systems with less than complete information. A comparative analysis allows countries to see themselves in the light of other countries' performance, to explore whether there are common patterns across countries, but also to identify cases where choices in one country are significantly different from those made in most other countries. The analysis in this section is based on four indicators of educational investment: teachers' salaries, teachers' qualifications, annual hours of instruction, and student-teaching staff ratios.

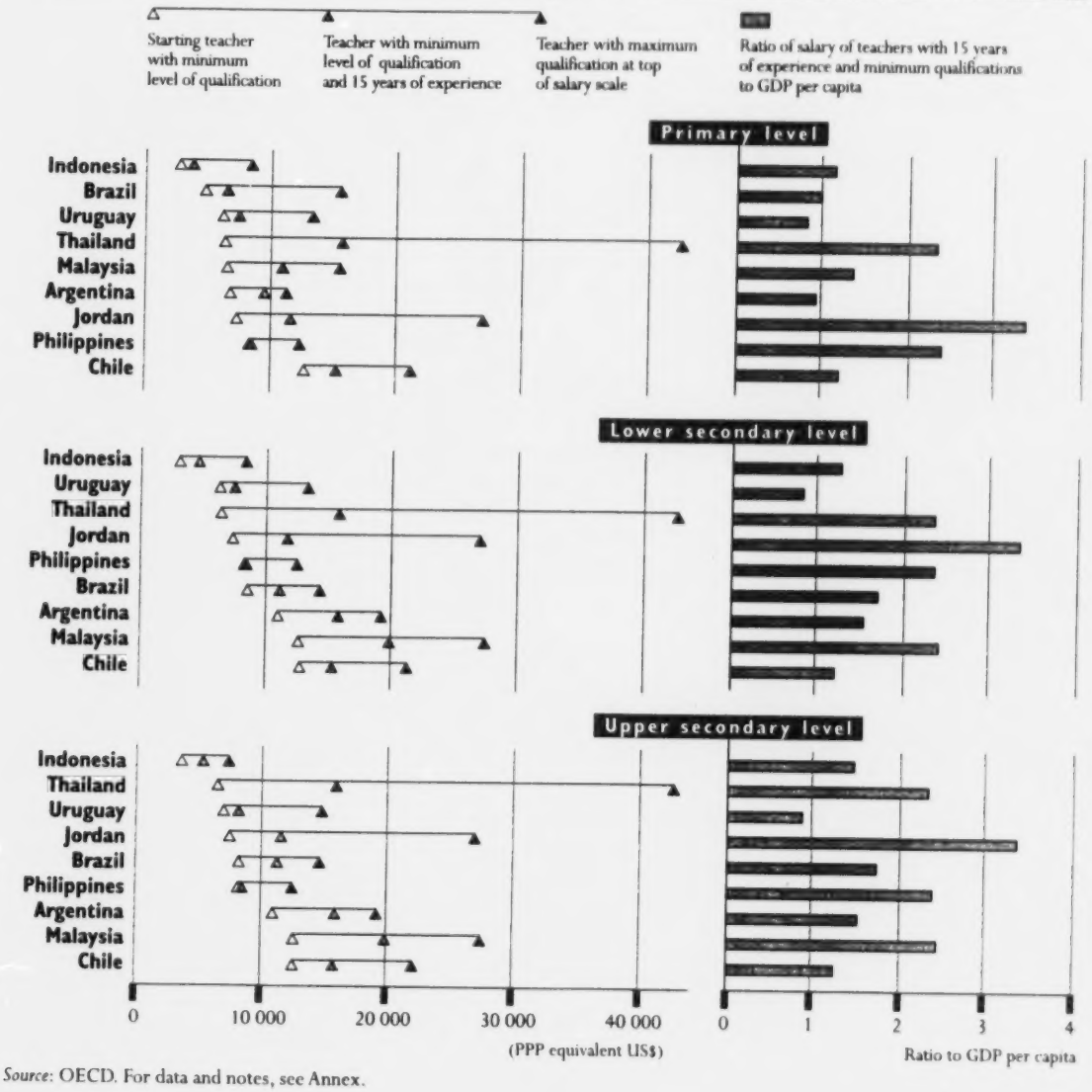
Teachers' salaries

Teachers' salaries affect both the numbers and the quality of those entering the profession.

Good teachers are a key to good education. Ensuring that there will be enough skilled teachers to educate all children is therefore an important policy concern in all OECD countries. The relative level of teachers' salaries can affect both the numbers and the quality of those entering the profession. Similarly, the availability of salary increases during the course of teachers' careers may have an important bearing on their decision whether to remain in the profession. Although salary is one of the rewards of the teaching profession that is amenable to education policy, the pressure to improve the quality of education and to expand access is under increasing fiscal constraints in most WEI countries. The remuneration of teachers is thus a critical component for policy-makers seeking to maintain the quality of teaching and a balanced education budget.

Figure 3.7 presents the starting, mid-career and maximum statutory salaries of teachers in public primary and secondary education. The left-hand end of each bar represents the average statutory salary of a beginning teacher in the public system at the respective level of education, the vertical line within the bar indicates the average statutory salary of a teacher with 15 years' experience, and the right-hand end of each bar represents the average statutory salary of a public school teacher at the top of the salary scale.

Figure 3.7
Range of annual statutory teacher salaries in public schools (1997)



Source: OECD. For data and notes, see Annex.

Statutory teachers' salaries differ widely among WEI countries: for an experienced teacher they are about five times higher in Malaysia than they are in Indonesia.

From this first look at teachers' salaries, it is clear that there are significant differences between countries in the amounts that they pay their teachers. The statutory salary of an experienced teacher at a lower secondary public school ranges from PPP US$ 4 360 in Indonesia to PPP US$ 19 800 in Malaysia.

In some WEI countries, both the magnitude of the average salary and the width of the salary range change little across levels of education, while in others, there are clear differences. For example, in Jordan, the Philippines and Thailand,

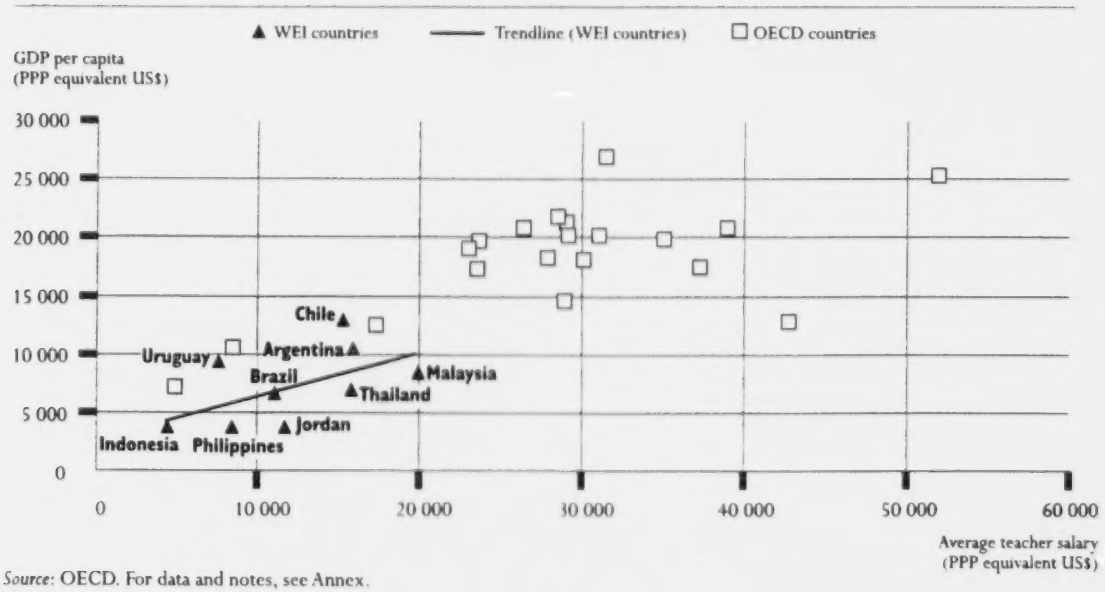
both the magnitude and range of salaries show little or no difference across levels of education. In other countries – Argentina, Chile, Indonesia, Malaysia and Uruguay – both the magnitude and range of salaries increase from the primary to the upper secondary level. These countries pay higher salaries to teachers at higher levels. In Brazil, the average salary increases, but the range of salaries narrows as the level of education rises. Because these salaries are calculated using purchasing power parities (PPPs), they compare teachers' ability to purchase a common set of goods and services across countries.

Many countries pay higher salaries to teachers at higher levels, but differentials vary widely among WEI countries.

In thinking about a country's ability to attract people to the profession and retain them, it is also useful to contrast teachers' salaries with the salaries of other professions in the country. Even though teachers' salaries may be low in comparison with those in other countries, if they are high in relation to what might be paid in similar jobs in their own country, teachers are likely to consider themselves well paid. Because comparable information on salaries in other professions is difficult to obtain, GDP per capita is used as a substitute. Although it lacks the precision of comparing teachers with other professionals with similar qualifications, it does provide a useful means of comparing teachers' salaries with the economic potential for rewarding them. In all except one of the WEI countries for which data are available, the teachers at the higher levels of education appear to be fairly well paid in relation to GDP per capita (see Figure 3.8 and Annex Tables 31-33). In the Philippines, teachers' salaries appear low when compared with those in other countries, but fairly generous when compared with GDP per capita.

In some countries salaries are low in absolute terms, but still high in relation to national income per capita.

Figure 3.8
Teacher salaries and national income
Average annual statutory teacher salaries in public lower secondary schools after 15 years' experience relative to GDP per capita (1997)



Source: OECD. For data and notes, see Annex.

Although teachers' salaries in WEI countries are low compared to the OECD average, several of these countries are making more of an effort to invest in teachers.

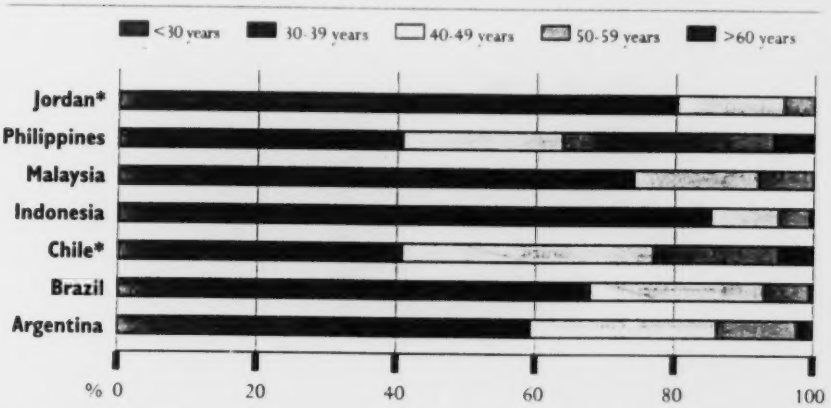
In six out of ten countries, lower secondary public school teachers with 15 years' experience make more in relation to their country's GDP than do similar teachers in the average OECD Member country. Whereas, in the average OECD Member country, lower secondary school teachers with 15 years' experience are paid the equivalent of 145 per cent of GDP per capita, statutory lower secondary teachers' salaries in Malaysia, the Philippines and Thailand are over 200 per cent of GDP per capita, and in Jordan over 300 per cent of GDP per capita. This reflects both the commitment of these countries to attracting highly qualified personnel into the teaching profession and the differences in the qualifications profile of the labour force between OECD and WEI countries.

On the other hand, the statutory starting salaries of teachers in primary schools in seven out of nine WEI countries are around or less than average GDP per capita: under such circumstances it may be difficult to attract sufficient qualified personnel in the teaching profession.

In Brazil, Jordan, and Thailand salaries for primary teacher at the top of the salary scale are double those for teachers with 15 years' experience while in other countries teaching experience is valued at a much lower rate.

The anticipation of relatively high salaries can also serve as an incentive to remain in the profession and, indeed, salaries in WEI countries are higher for teachers with more experience and training. Annex Tables 31-33 present the statutory salaries for public school teachers at three points throughout the typical career: at the point of entry into the profession with the minimum amount of training, after 15 years' experience, and after gaining maximum qualifications and attaining the maximum salary. While there is an increase across these levels in all WEI countries for which data are available, the increases in some countries are considerably higher than in others. For example, primary school teachers with 15 years' experience in Malaysia and Thailand earn at least 50 per cent more than teachers at the beginning of their careers. In Brazil, Indonesia, Jordan, and Thailand, salaries at the top of the salary scale are double those for teachers with 15 years' experience. These differences in salaries are an indication that countries value teachers with experience and seek to provide them with incentives for remaining in the profession.

Figure 3.9
Age distribution of teaching staff, all levels of education (1997)



* Excluding tertiary education.
Source: OECD. For data and notes, see Annex.

In the case of Brazil and Jordan, the higher salaries paid to more experienced teachers may not represent as much of a strain on the education budget as might be expected, since there appear to be fewer teachers in older age groups than in other WEI countries (see Figure 3.9). In Brazil, teachers aged 40 years and over make up only 28.6 per cent of the total teaching force, and in Jordan they comprise only 19.6 per cent. In contrast, in Chile and the Philippines, teachers aged 40 years and over comprise approximately 60 per cent of the total teaching force. The older ages of teachers in the Philippines may be one reason why the premiums paid to more experienced teachers are not as great as in other countries.

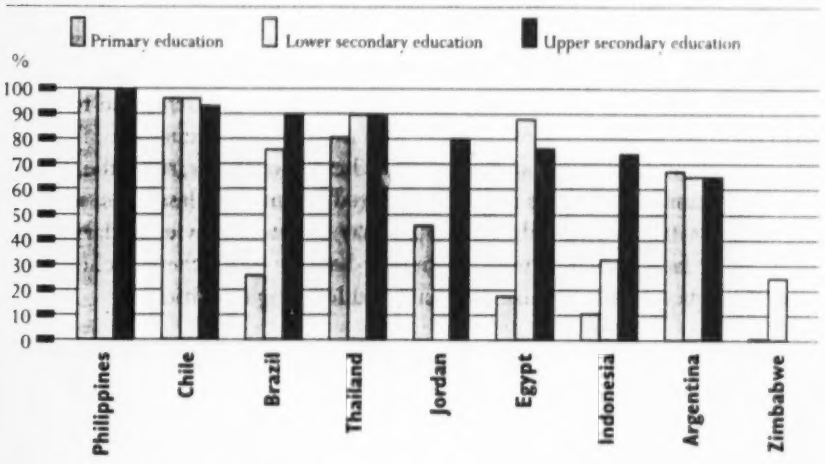
As mentioned earlier, teachers' salaries in most WEI countries also tend to be higher for those who teach at higher levels of education. In Argentina, Brazil and Malaysia, the statutory salaries for secondary public school teachers are considerably higher than those for primary school teachers, often, as in Malaysia, because of higher qualification requirements. However, in Chile, Jordan, the Philippines, Thailand and Uruguay, the differences between these levels are non-existant or relatively modest.

Teachers' qualifications

Qualification profiles of teachers vary both between levels of education and between countries.

Part of the reason for the variation in teachers' salaries between levels of education taught may be that teachers at higher levels enter the profession with more advanced academic credentials than do teachers at lower levels. This is the case in Brazil, Egypt, Indonesia and Jordan, where higher-paid secondary school teachers are far more likely to have higher education qualifications than are primary school teachers (see Figure 3.10). In the Philippines, where there is little difference in salary between levels of education taught, teachers at all levels have roughly the same level of qualifications, namely tertiary or higher. Conversely, Argentina

Figure 3.10
Teacher qualifications
Percentage of teachers with tertiary-level qualifications, by level of education taught (1997)



Source: OECD. For data and notes, see Annex.

does not fit either of these two patterns. Teachers are similarly qualified at all levels of education taught, but lower and upper secondary school teachers receive considerably higher salaries than primary school teachers.

If, as is likely, the higher qualifications of teachers who are teaching at higher levels of education taught result from certification requirements, they can be viewed as government decisions to invest differently in different levels of education. A government requirement that teachers possess higher levels of qualifications is an investment, since the government must often support that requirement through the financing of the additional teacher training and the resultant higher salaries. In return for the investment, governments can expect to gain a more knowledgeable and skilled teaching force – one that will positively influence student outcomes.

Supporting many teachers with tertiary education qualifications is an investment which some countries cannot make or must make strategically at certain levels.

Supporting many teachers with tertiary education qualifications, however, may represent an investment which some countries cannot make, or must make strategically at certain levels. As illustrated in Figure 3.10, in Brazil, Jordan, Egypt and Indonesia, teachers with tertiary education qualifications are more common at secondary level than at primary level, and in some cases, more common at upper secondary level than at lower secondary level. These patterns reflect strategies of selective investment in higher levels of education.

School conditions: hours of instruction and class size

Teaching time and teachers' workloads are other factors that must be included in the equation.

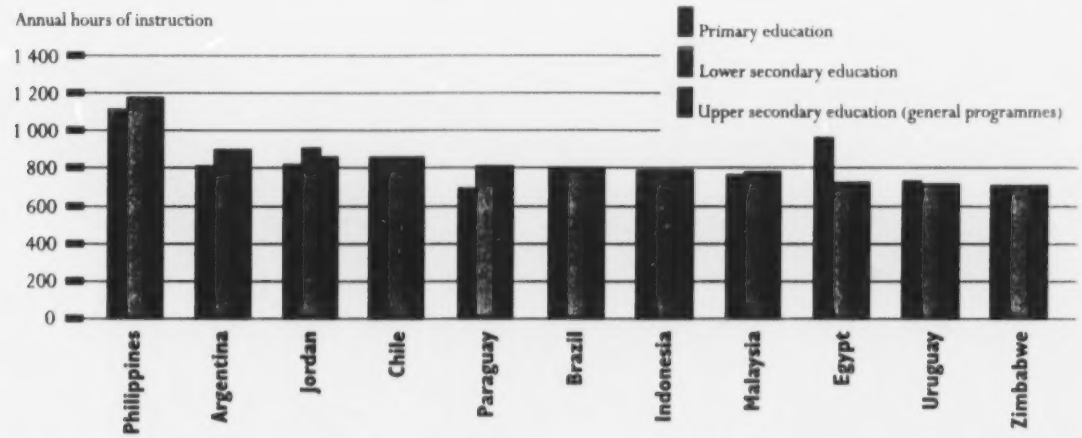
Any examination of efficiency in the education system must recognise that comparisons of teachers' salaries between countries are not necessarily comparing equal amounts of work. Governments paying teachers relatively high salaries may justify these by imposing greater workloads on teachers. In other cases, governments may limit teachers' workloads in order to attract people to a profession that might not be well paid. Governments may also use a strategy of limiting teachers' workloads if they believe that the consequent reduction in the quantity of teaching will be compensated by increases in its quality.

The WEI indicators provide information on numbers of students and teachers, and the number of hours which each group spends in the classroom each year. While the number of hours is itself a measure of workload, it can also be combined with information on the numbers of students and teachers so as to create an indicator of class size. It is important to examine both hours of instruction and class size in assessing teachers' workloads, since the burden of a large number of hours may be mitigated by smaller class sizes, just as a light load in terms of number of hours may be made heavier by large class sizes. These factors may be used to counter-balance each other as schools and governments seek to optimise teaching and learning conditions.

Primary teachers in the Philippines spend over 1 100 hours per year teaching, a third more than teachers in Zimbabwe.

On both measures of workload, there are wide variations among WEI countries. Figure 3.11 presents the average annual hours of instruction for teachers from primary to upper secondary levels. At one extreme is the Philippines, where teachers from primary through upper secondary levels spend over 1 100 hours per year in teaching. At the other extreme is Zimbabwe, where primary school

Figure 3.11
Teacher working time
Annual statutory hours of teaching per teacher in public schools, by level of education (1997)

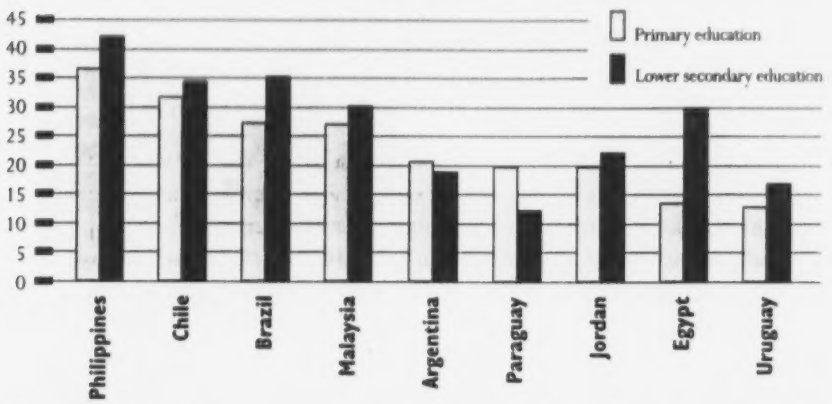


Source: OECD. For data and notes, see Annex.

teachers have only 708 hours of instruction. Hours for the remaining nine countries range from 732 to 965 hours at the primary school level and from 712 to 900 hours at the upper secondary level. It should be noted that this indicator gives no information about the hours devoted to teaching-related tasks, such as preparation of lessons or professional development activities, and general school tasks, such as staff meetings or student support. It is thus important that this indicator should not be interpreted as a measure of the total workload, since it reflects only the proportion of time spent in classroom teaching.

In respect of class size, a similarly wide range can be observed among the nine WEI countries with available data (see Figure 3.12), class size being estimated

Figure 3.12
Average class sizes for primary and lower secondary education* (1997)



* Estimated as hours of instruction divided by statutory teaching hours times student teaching staff ratio.
Source: OECD. For data and notes, see Annex.

In the Philippines, a heavy teaching load is exacerbated by comparatively large class sizes.

as hours of instruction divided by statutory teaching hours times student-teaching staff ratios (or equivalently, the number of students times the number of statutory hours of instruction for students, divided by the number of teachers times the statutory number of hours which teachers have to teach). Comparatively small class sizes are found in Egypt and Uruguay at the primary level (13.5 and 12.8 students, respectively) and in Uruguay and Paraguay at the lower secondary level (16.9 and 12.3 students, respectively). The Philippines shows relatively large class sizes at those levels (36 and 42 students). In seven out of nine countries the size of lower secondary school classes exceeds that of primary school classes.

Both hours of instruction and class size are often thought to have an impact on outcomes: that is, on student achievement. Countries may therefore try to adjust one or both of these factors in order to improve student learning. In Argentina, for example, there have been attempts in some provinces to reduce class sizes. The Philippines has increased the time allotted to English, science and mathematics, and has lengthened the school calendar from 185 to a maximum of 220 days. In Paraguay, a government-sponsored Reform Plan has recommended lengthening the school year from 180 to 220 days and limiting class sizes to 30 students.

Possible trade-offs in educational investments

Countries must make choices between increasing salaries, decreasing class sizes, and changing the workloads of teachers or the hours of instruction which students receive.

Changes in class size or hours of instruction must take place within budgetary constraints. How efforts to improve the learning process are balanced with limited resources is something that varies from country to country. It has already been shown that teachers' salaries sometimes vary according to level of academic qualifications and level of education taught, but can similar trade-offs be observed between other indicators of educational investment? For example, do countries compensate a high number of annual hours of instruction with small classes, or large classes with relatively light burdens of teaching hours? Similarly, do countries seek to balance high teaching workloads with extra remuneration, or are low salaries matched by less burdensome working conditions?

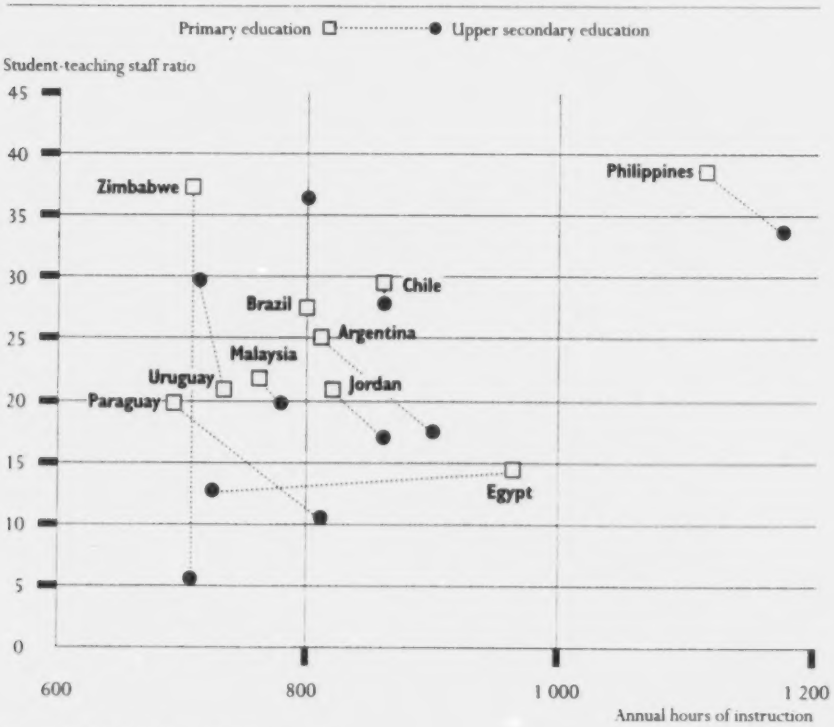
Evidence of a possible trade-off between hours of instruction and class size can be found among the ten countries for which data are available, but it is not a strong relationship (see Annex Table 36). For example, the Philippines has both the highest number of annual hours of instruction and the second largest class sizes. At the other end of the scale, Uruguay has both the lowest number of annual hours of instruction and the largest class sizes.

There is also only weak evidence of a trade-off between working conditions and salaries. Table 36 introduces a further measure of teachers' workloads: annual student contact hours per teacher, which is the product of multiplying hours of instruction by class size. The table shows that teachers in the Philippines have the highest number of student contact hours, but do not have proportionately high salaries. Conversely, teachers in Argentina and Malaysia have fewer contact hours than do those in the Philippines, yet have significantly higher salaries. A trade-off of longer hours for higher pay would be represented in this case by a positive correlation between the two indicators.

Despite the lack of a strong positive correlation, it is nevertheless possible that governments do balance hours of instruction, student-teaching staff ratios and teachers' salaries against each other. These strategies may not be reflected in international comparisons because the conceptions of "low" and "high" remuneration are relative. Using salaries as a percentage of GDP instead of the salaries themselves, helps to relate the discussion to salary conditions within each country. Although it may not appear that teachers are receiving higher salaries for more strenuous working conditions in the context of international salary standards, their salaries may be high in relation to other professional salaries within their own countries. If salaries are measured as a percentage of GDP per capita, the relative positions of the countries remain somewhat similar, with the noticeable exceptions of Jordan and the Philippines. In both cases, the compensation of teachers improves significantly in relation to that in other countries. The primary contrast between the two countries is that while teachers in the Philippines have a relatively high number of contact hours, teachers in Jordan do not.

Figure 3.13 compares differences in annual hours of instruction and student-teaching staff ratios between primary and upper secondary levels in

Figure 3.13
Student-teaching staff ratios and annual statutory teaching hours:
Primary and upper secondary education (1997)

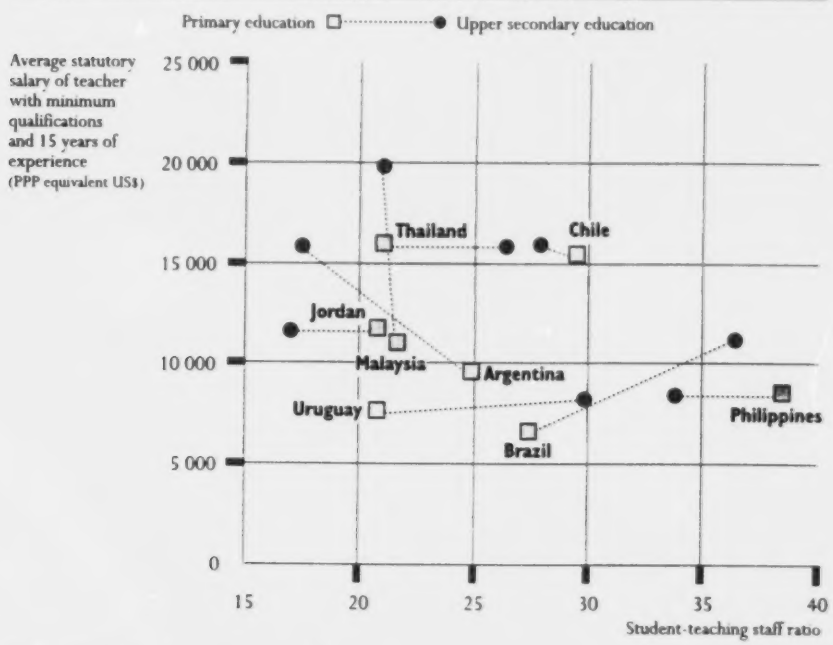


Source: OECD. For data and notes, see Annex.

10 WEI countries. While in Argentina, for example, the increase in the number of hours of instruction for teachers from primary to upper secondary level is accompanied by a lower student-teaching staff ratio, and the slight reduction in teaching hours in Uruguay is accompanied by a significant increase in the student-teaching staff ratio, in Brazil and Chile, changes in one factor are unaccompanied by changes in the other.

Finally, Figure 3.14 compares student-teaching staff ratios with statutory salaries for teachers at primary and upper secondary levels with 15 years' experience. In this comparison, a possible trade-off between higher student-teaching staff ratios and higher salaries exists only in the cases of Brazil and Uruguay, where there are higher student-teaching staff ratios at upper secondary level, but also higher salaries. In Argentina, Chile and Malaysia, not only are student-teaching staff ratios lower at the upper secondary level, but salaries are higher as well. In three other countries – Jordan, the Philippines and Thailand – average salaries remain the same between the two levels of education even while student-teaching staff ratios differ. It should, of course, be borne in mind that different levels of education have different working conditions: that is, what are considered appropriate salaries, class sizes and working hours at the primary level may not be the same at the upper secondary level.

Figure 3.14
Student-teaching staff ratios and average annual statutory teacher salaries: Primary and upper secondary education (1997)



Source: OECD. For data and notes, see Annex.

This extended discussion of trade-offs in the allocation of resources in education raises two issues. Firstly, just because there appears generally to be only weak evidence of trade-offs between certain pairs of indicators, this does not mean that the trade-offs are not being made. In fact, it is likely that all WEI countries are making the trade-offs in much the same proportions. Secondly, it is important to remember that trade-offs are made among resources that can vary in their magnitude over time.

New instructional technologies, such as computers and the Internet, have the potential to increase learning without increasing the number of teachers and expenditure per student.

New instructional technologies, such as computers and the Internet, have the potential to increase learning without increasing the number of teachers, and hence expenditure per student. The Malaysian *Smart School Pilot Project* (see box) is one example of how technology can be exploited to improve the teaching-learning process. Of more importance than investment in hardware is the manner in which computers are used, and the difference which this can and does make to the teaching and learning experience. Many claims are made for teaching and learning methods that exploit information and communication technologies in schools, yet surprisingly little firm evidence and evaluation are available to support high expectations, in either OECD or WEI countries. The lack of good, relevant educational software and multi-media materials is itself a disincentive for their use, since teachers, parents and others hesitate to buy software which is of questionable quality, or which does not correspond to the curriculum taught. This in turn inhibits the development of a market for high-quality educational software, creating a vicious circle. The essential

The Malaysian Smart School Pilot Project

The Malaysian Ministry of Education is the designer and manager of a three-year pilot programme aimed at achieving technology-driven improvements in the teaching-learning process. Ninety schools were selected to participate in the pilot. The Ministry invited companies and institutions interested in developing educational programmes and materials for schools to submit proposals. Out of 49 original proposals, two consortia, consisting of seven local companies and three multinational corporations, were combined into a joint venture company, *Telekom Smart School, Inc.* Telekom Smart School is developing five types of products:

- *Teaching-learning materials* in the form of courseware and printed materials for language arts, science and mathematics;
- *The Smart School Management System,* which consists of software for various management functions such as school governance, student affairs, finances, human resources, facilities and technology;
- *Technology infrastructure* comprising hardware, software, systems software and non-information technology equipment;
- *Systems integration* among the teaching-learning materials and various components of the technology infrastructure; and
- *Support services* comprising help desk services, maintenance and support.

The objectives of the *Smart School* are based on Malaysia's National Philosophy of Education and include:

- Producing a thinking and technology-literate workforce;
- Democratising education;
- Increasing participation by stakeholders;
- Providing for the all-round development of the individual; and
- Providing opportunities to enhance individual strengths and abilities.

It is expected that improvements in the teaching-learning process will be achieved in several ways. *Smart Schools*' learning materials should help students to practise self-assessed and self-directed learning, at their own learning pace. Management software should help principals and school administrators to manage resources and processes more effectively. An integrated information system should provide all stakeholders – parents, the community and the private sector – with more information and a more complete profile of each school's functioning and performance.

The timeline for the project and the contract between the Ministry of Education and *Telekom Smart School* extends from July 1999 to July 2002.

Source: Ministry of Education in Malaysia.

professional support which teachers need in order to make best use of new technologies also seems under-developed and under-resourced. It is not just a matter of developing appropriate knowledge and skills but of changing attitudes as well. The teacher is commonly supposed to be as much a barrier as a key medium, too often defensive and ill-equipped in comparison with students who are comfortable with computer applications.

■ CONCLUSION

While the provision of sufficient learning opportunities must remain an important objective of education policy in WEI countries, particularly at the higher levels of education, the quality of educational services is equally important. Effective schools require the right combination of talented personnel, adequate facilities and motivated students. There is little question that insufficient spending can compromise the quality of educational services provided, if students are obliged to sit in overcrowded classrooms, to learn from under-qualified teachers, to make do with few or outdated materials, or to attend schools operating on reduced schedules.

This chapter has analysed aggregate spending and examined priorities within education budgets (such as spending by level of education, private provision and services targeted to specific target populations) as well as spending choices within the classroom (teachers' salaries, teachers' qualifications, hours of instruction and class size).

The comparison of education expenditure with the size of the school-age population has pointed to a broader trade-off between expanding access to education and increasing the quality of educational provision. Countries unable to match increases in participation with increases in resources are facing difficult choices over the adjustment of educational services provided. Although the relationship between the financial resources invested in education and educational quality is complex, the wide range of unit costs across WEI countries illustrates the potential diversity in the quality of educational provision. Of the 10 WEI countries for which comparable data are available, public and private expenditure per student on public primary schools ranges from less than US$ 200 to more than US$ 1 800, even after adjusting by purchasing power parities. These differences in costs are largely accounted for by variation in student-teaching staff ratios, staffing patterns, teachers' salaries, teaching materials, hours of instruction and facilities. While teachers at the higher levels of education appear to be fairly well paid, at least in relation to GDP per capita, the statutory starting salary of a teacher in a public primary school in seven out of nine WEI countries is around or less than average GDP per capita: under such circumstances it is probably difficult to attract qualified personnel into the teaching profession. Supporting teachers with tertiary education qualifications is thus an investment which some countries cannot currently make or must make strategically at certain levels. In some countries, only a small minority of primary students are educated by teachers with a tertiary qualification at non-university or university level.

With increased participation in education drawing on new client groups and a wider range of choices concerning what, when, how and where to learn, and with added demographic pressure at least at higher levels of education, existing financing mechanisms may prove to be inadequate: it may not be possible to pay both for the expansion of education systems and for improvements in educational quality.

New policies may be needed which allow the different actors and stakeholders to participate more fully and to share the costs and benefits more equitably. Investment by governments may be most appropriate where public benefits are likely to be high, while individuals and enterprises need to take significant responsibility for learning with high private returns. In areas such as tertiary education, in which some WEI governments invest a disproportionately large share of their educational resources while large private gains accrue, it is legitimate to ask whether cost-sharing should be adjusted.

Where cost-sharing creates the need for active partnerships, many non-financial issues also arise. Governments in WEI countries need to review their strategies for building up the effectiveness of partnership ventures, and to consider how they can play supportive roles when they are not the lead partner. In order to encourage the efficiency of school systems, some WEI countries have introduced market-based incentives into education systems, bringing to

bear the forces of competition in order to enhance school and teacher performance, to enable parents to choose their children's school and to encourage the development of innovative and effective educational programmes.

Finally, where resources are limited, it is important to look at cost-effective options such as part-time study, distance learning and modular programmes adapted to individual learning interests, needs and circumstances. Small amounts of public resources invested in such programmes can often help to attract private investments from employers and individuals. Policy-makers can have some influence over job-related education and training, both by encouraging enterprises to invest in the skills of their workers and by maximising the effectiveness of public labour market training programmes. Clearly, education and training cannot on their own cure unemployment, poverty or other social ills – other ingredients have to be brought to bear, including labour market and social reforms as well as macro-economic policy. However, the cost of not investing in human knowledge and skills can be great. It exposes countries to the risk of entrenched unemployment, greater social exclusion, mismatched job skills and wasted economic opportunity.

ANNEX

This annex provides the data used in this publication as well as important information on the definitions and methods underlying these data. The full documentation of national data sources and calculation methods is published in the 2000 edition of OECD's *Education at a Glance* and is also available on the internet:

http://www.oecd.org/els/stats/els_stat.htm

The annex includes five sections:

- **SECTION A1** provides general notes pertaining to the coverage of the data, the reference periods and the main sources for the data;
- **SECTION A2** provides definitions and notes that are important for the understanding of the indicators presented in this publication (the notes are organised alphabetically);
- **SECTION A3** provides a cross-reference between tables and notes;
- **SECTION A4** provides the full set of data used in this publication;
- **SECTION A5** documents the classification of 16 WEI countries educational programmes according to the *International Standard Classification of Education* (ISCED).

A1
GENERAL NOTES

Coverage

Although a shortage of data still limits the scope of some indicators in many WEI countries, the coverage extends, in principle, to the entire national education system regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. With one exception described below, all types of students and all age-groups are meant to be included: children (including those classified as exceptional), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data. Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject-matter content similar to "regular" education studies or that the underlying programmes lead to potential qualifications similar to corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

Reference periods

The *reference year for data on entry, enrolment, completion and education personnel* is the school year 1996/1997 for WEI countries and the school year 1995/1996 for OECD countries. The *reference year for the financial data* is the calendar year 1997 for WEI countries and the calendar year 1995 for OECD countries. GDP consumer price deflators are used to adjust the data on expenditure where the national financial year does not coincide with the calendar year. In order to make this adjustment, the data on educational finance are multiplied by the ratio of GDP price levels between the calendar year for which data are published and those of the preceding calendar year, in proportion to the fraction of the national financial year that overlaps with the previous calendar year. The following two limitations of the use of such deflators should be recognised: *i)* the adjustments relate to changes in the general (GDP) price level but not to the price level for educational services (the assumption is made that educational costs are measured in terms of national income forgone); *ii)* no allowance has been made for real growth in educational expenditure (increases in excess of inflation or smaller increases) that might have taken place during the corresponding period of adjustment. Special adjustments are made for the calculation of indicators in which both financial and enrolment data are used.

Data on national expenditure in this publication have been converted using purchasing power parities (PPPs).

Sources

Most numerical data used in this report come from the OECD database. Government officials in OECD and WEI countries provide these data annually to the OECD in detailed and highly structured electronic questionnaires. These questionnaires consist of several electronic workbooks organised by topic – demographic background, education finance, enrolment, entrants, graduates, curriculum, personnel and decision-making in education.

Sources used by the government officials for completing the electronic questionnaires consist most often of labour force surveys, population censuses, or population projections based on censuses in the case of the demographic background and educational attainment data. Education system records, such

as school censuses, in most cases provide the data on enrolments, entrants, graduates, curriculum and personnel. Education finance data often come from sources outside education ministries, most often government ministries that specialise in finance.

Additional financial and economic background data used in this report come from World Bank databases, some of which are published in its *World Development Indicators* publication. Specific indicators borrowed from World Bank databases include purchasing power parity indices and gross domestic product (GDP) per capita.

For a full documentation of national data sources and calculation methods refer to the 2000 edition of OECD's *Education at a Glance* or the internet (http://www.oecd.org/els/stats/els_stat.htm).

The OECD *country mean*, that is often provided as a benchmark, is calculated as the unweighted mean of the data values of all countries for which data are available or can be estimated. The country mean therefore refers to an average of data values at the level of the national systems and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system or population in each country.

A2
DEFINITIONS, METHODS AND TECHNICAL NOTES

Attainment (Tables 5, 6, 7, 8, 9, 10, 11, 12)

The attainment profiles used in Tables 5 to 12 present the percentage of the population, the labour force, or the percentage of the population with a particular employment status in a specified age group who have completed a specified highest level of education, defined according to ISCED-97. Note that many educational programmes cannot be easily classified and the contents of a specific ISCED level may differ between countries, and even within countries over time between different age groups.

Current and capital expenditure (Table 27)

Current expenditure is expenditure on educational goods and services consumed within the current year, which needs to be made recurrently to sustain the production of educational services. Minor expenditure on items of equipment, below a certain cost threshold, are also reported as current spending.

Capital expenditure represents the value of educational capital acquired or created during the year in question – that is, the amount of capital formation – regardless of whether the capital outlay was financed from current revenue or by borrowing. Capital expenditure includes outlays on construction, renovation, and major repair of buildings and expenditure for new or replacement equipment. Although capital investment requires a large initial expenditure, the plant and facilities have a lifetime that extends over many years.

The data cover expenditure by public institutions or, where available, those of public and private institutions combined (see also *educational institution*). Only expenditure on educational institutions is considered. The proportions of current expenditure allocated to compensation of teachers (see also *teachers*), compensation of other staff, total staff compensation and other (non-personnel) current outlays are calculated by expressing the respective amounts as percentages of total current expenditure. In some cases, compensation of teaching staff means compensation of classroom teachers only, but in others it includes that of heads of schools and other professional educators. Capital expenditure does not include debt-servicing.

Decision-making in education

The indicators on the locus and mode of decision making in education, as used in the country profiles in this publication, are derived from the OECD-WEI locus of decision making questionnaire and refer to the school year 1997/98.

Territorial decentralisation is concerned with the distribution of powers between levels of government. This concept encloses two different dimensions: *i)* the locus of decision-making, that is, it identifies which level has the decision-making authority; and *ii)* the mode of decision-making, which distinguishes between degrees to which levels are autonomous or "sharing" in decision-making authority.

When interpreting the indicators, it is important to recognise that the results are based on the 35 decision items included in the survey which are described below. The survey items were selected to be typical of the range of decisions taken in education systems and reviewed on this basis in participating countries. Each of the decision domains was given equal weight – and thus equal importance – in calculating the indicators.

The questionnaire was completed by panels of national experts in order to avoid problems with ambiguities and differences of opinion. For each level of education, a panel comprising one member from each of the following three decision-making levels was constituted: highest level (central government), middle levels (state governments, provincial/regional authorities or governments, sub-regional or inter-municipal authorities or governments, local authorities or governments), lowest level (individual school). This group completed the questionnaire and arrived at consensus on all questions. For each level of education, a second expert panel comprising representatives of the three decision-making levels was constituted and the process repeated. The WEI co-ordinator then reviewed and compared the results of the two surveys to identify differences in responses to the questionnaire. In cases where the responses differed, the WEI co-ordinator used source documents to reconcile disagreements between the two panels.

Levels of decision-making

With respect to the levels of decision-making the questionnaire distinguished between six levels:

Central Government: The central government consists of all bodies at the national level that make decisions or participate in different aspects of decision-making, including both administrative (government bureaucracy) and legislative bodies (*e.g.* parliament).

State Governments: The state is the first territorial unit below the nation in "federal" countries or countries with similar types of governmental structures. State governments are the governmental units that are the decision making bodies at this governmental level.

Provincial / Regional Authorities or Governments: The province or the region is the first territorial unit below the national level in countries that do not have a "federal"– or similar type of governmental structure and the second territorial unit below the nation in countries with a "federal" or similar types of governmental structures. Provincial/regional authorities or governments are the decision making bodies at this governmental level.

Sub-Regional or Inter-Municipal Authorities or Governments: The sub-region is the second territorial unit below the nation in countries that do not have a "federal"– or similar type of governmental structure. Sub-regional or inter-municipal authorities or governments are the decision-making bodies at this governmental level.

Local Authorities or Governments: The municipality or community is the smallest territorial unit in the nation with a governing authority. The local authority may be the education department within a general-purpose local government or it may be a special-purpose government whose sole area of authority is education.

School, School Board or Committee: The school attendance area is the territorial unit in which a school is located. This level applies to the individual school level only and includes school administrators and teachers or a school board or committee established exclusively for that individual school. The decision-making body – or bodies – for this school may be: *i)* an external school board, which includes residents of the larger community; *ii)* an internal school board, which could include headmasters, teachers, other school staff, parents, and students; and *iii)* both an external and an internal school board. Parents and teachers were considered as an element of the school level.

The descriptions of "at what level" and "how" educational decisions are made reflects the actual decision-making process. In some cases, a higher level of government may have formal or legal responsibility for decision-making, but in practice, that level of government delegates its decision-making authority to a lower level of government. In describing the actual decision making process, the lower level of government is identified as the decision-maker. Similarly, a higher level of government may provide a lower level of government with choices in a particular area of decision-making (*e.g.*, the selection of textbooks for particular courses). In that case too, the lower level of government is the actual decision-maker, but within a framework established by a higher level of government. Finally, there are cases in which one level of government may have the responsibility for an individual decision, but inaction by the higher level results in a decision being made by a lower level within the educational system. If a decision is left to the discretion of a lower level through the lack of determination of higher levels, then the level that actually makes the decision was indicated.

Mode of decision-making

The mode of decision-making refers to the issues as to how autonomously decisions are taken. The following categories were used:

Full autonomy: subject only to any constraints contained in the constitution or in legislation outside the education system itself.

After consultation with bodies located at another level within the education system.

Independently, but within a framework set by a higher authority (*e.g.*, a binding law, a pre-established list of possibilities, a budgetary limit, etc.).

Other mode.

Decision-making items

Organisation of instruction: Bodies determining the school attended; Decisions affecting school careers; Instruction time; Choice of textbooks; Grouping pupils; Assistance to pupils; Teaching methods; Assessment of pupils' regular work.

Personnel management: Hiring the principal; Dismissal of the principal; Hiring teacher; Dismissal of teacher; Hiring a person for the non-teaching post; Dismissal of the person for a given non-teaching post.

Duties and conditions of service of principal; Duties and conditions of service of teaching staff; Duties and conditions of service of non-teaching staff. Fixing of salary scales for principals; Fixing of salary scales for teaching staff; Fixing of salary scales for non-teaching staff. Influence over the career of the principal; Influence over the career of teachers; Influence over the career of non-teaching staff.

Planning and structures: Creation or closure of schools; Creation or abolition of a grade level; Designing programmes of study; Selection of programmes of study offered in a particular school/Selection of

subjects taught in a particular school; Definition of course content; Setting of qualifying examinations for a certificate or diploma; Credentialling.

Resource allocation and use: Allocation of resources to the school for teaching staff; Allocation of resources to the school for non-teaching staff; Allocation of resources to the school for capital expenditure; Allocation of resources to the school for operating expenditure. Use of resources for staff; Use of resources for capital expenditure; Use of resources for operating expenditure.

Direct expenditure on educational institutions (Tables 24, 25, 28)

Direct expenditure on educational institutions may take one of two forms: *i)* purchases by the government agency itself of educational resources to be used by educational institutions (*e.g.* direct payments of teachers' salaries by a central or regional education ministry); *ii)* payments by the government agency to educational institutions that have responsibility for purchasing educational resources themselves (*e.g.* a government appropriation or block grant to a university, which the university then uses to compensate staff and to buy other resources). Direct expenditure by a government agency does not include tuition payments received from students (or the families) enrolled in public schools under that agency's jurisdiction, even if the tuition payments flow, in the first instance, to the government agency rather than to the institution in question.

Earnings (Table 12)

Earnings from work

Earnings from work refer to annual money earnings, *i.e.* direct pay for work before taxes. Income from other sources, such as government aid programmes, interest on capital, etc., is not taken into account. Mean earnings are calculated on the basis of data for all people with income from work, including the self-employed.

Relative earnings

Relative earnings from work are defined as the mean annual earnings from work of individuals with a certain level of educational attainment (see also *educational attainment*) divided by the mean annual earnings from work of individuals whose highest level of educatio is the upper secondary level.

The observed differences in relative earnings across countries reflect variations not only in wage rates but also in coverage, in the number of weeks worked per year and in hours worked per week. To the extent that lower educational attainment is associated with fewer hours of work (in particular with part-time work) and with less stable employment (more likelihood of temporary employment or more susceptibility to unemployment over the course of a year), the relative earnings figures shown for higher educational attainment in the tables and charts will be magnified over and above what would be observed from an examination of relative rates of pay. The observed differences in relative earnings of men and women within a country can likewise be affected by some of these factors.

Educational expenditure

Educational expenditure refers to the financial disbursements of educational institutions for the purchase of the various resources or inputs of the schooling process such as administrators, teachers, materials, equipment and facilities.

Educational institution

Educational institutions are defined as decision-making centres which provide educational services to individuals and/or other institutions. The definition is based on the point of view of management and control, which are normally carried out by a Director, Principal, or President and/or a Governing Board (or similar titles such as Management Committee, etc.). In general, if a centre has a Director, Principal, or President and a Governing Board then it is classified as an institution. If it lacks these, however, and is controlled by an educational institution, then it is not a separate institution but rather an off-campus centre of an institution. Where a centre is not managed by a Governing Board but is administered directly by a public education authority, the centre is classified as an institution in its own right.

Expenditure on educational institutions as a percentage of GDP (Tables 24, 25, 26)

In Tables 24 to 26, expenditure on education is expressed as a percentage of GDP and is presented by source of funds and by level of education. The distinction by source of funds is based on the initial source of funds and does not reflect subsequent public-to-private or private-to-public transfers.

Ideally, this indicator would cover both direct private costs (such as tuition and other education-related fees and the costs of textbooks, uniforms and transport) as well as indirect private costs (lost output when employees participate in on-the-job training). But many of these private costs are difficult to measure and to compare internationally. The main focus of this indicator therefore is on public and private expenditure on educational institutions.

Direct public expenditure on educational institutions (column 1 of Tables 24 and 25) can take the form either of purchases by the government agency itself of educational resources to be used by educational institutions or of payments by the government agency to educational institutions that have responsibility for purchasing educational resources.

Public subsidies to households and other private entities for educational institutions (column 2 of Tables 24 and 25) are composed of government transfers and certain other payments to students/households, insofar as these translate into payments to educational institutions for educational services (for example, fellowships, financial aid or student loans for tuition). They also include government transfers and some other payments (mainly subsidies) to other private entities, including, for example, subsidies to firms or labour organisations that operate apprenticeship programmes and interest subsidies to private financial institutions that provide student loans, etc.

Payments from households and other private entities to educational institutions (column 3 of Tables 24 and 25) include tuition fees and other fees, net of offsetting public subsidies.

Public subsidies to households that are not attributable to payments to educational institutions (column 7 of Tables 24 and 25) include subsidies for student living costs and the value of special subsidies provided to students, either in cash or in kind, such as free or reduced-price travel on public transport or family allowances that are contingent on student status. (Those subsidies are also included in column 5 of Tables 24 25.)

Private payments other than to educational institutions (column 6 of Tables 24 and 25) include direct purchases of personal items used in education or subsidised expenditure on student living expenses.

Expenditure per student (Tables 21, 22)

The data used in calculating expenditure per student include only direct public and private expenditure on educational institutions. Public subsidies for students' living expenses have been excluded to ensure the international comparability of the data.

For some countries, expenditure data for students in private educational institutions were not available (indicated by one or two asterisks in the table). Many of the WEI countries that do have data for independent private institutions cover only have a very small number of them. In such cases, only the expenditure on public and government-dependent private institutions are accounted for.

Expenditure per student on a particular level of education is calculated by dividing the total expenditure at that level by the corresponding full-time equivalent enrolment. Only those types of educational institutions and programmes are taken into account for which both enrolment and expenditure data are available. The enrolment data are adjusted by interpolation so as to match either the financial year or the calendar year of each country (see explanation below). The result in national currency is then converted into equivalent US dollars by dividing the national currency figure by the purchasing power parity (PPP) index (see also *purchasing power parity*).

For countries for which the financial year and/or the school year does not match the calendar year, corresponding adjustments are made. The size of the overall adjustment is minimised by adjusting either the enrolment or the financial data, as appropriate, to accord with the calendar year.

For countries in which the financial year closely matches the calendar year but for which the school year is different from the calendar year, the enrolment data are weighted to match the calendar year. For countries in which the school year closely matches the calendar year but in which the financial year is different from the calendar year, the enrolment data remain unchanged but the GDP price deflators are used to match the financial data to the calendar year. For countries in which neither the school year nor the financial year matches the calendar year, the enrolment data are weighted to match the financial year and afterwards the above-mentioned GDP price deflators are used to adjust the financial year data to accord with the calendar year.

Financial aid to students

Financial aid to students comprises: *i) Government scholarships and other government grants to students* or *households*. These include, in addition to scholarships and similar grants (fellowships, awards, bursaries, etc.), the following items: the value of special subsidies provided to students, either in cash or in kind, such as free or reduced-price travel on public transport systems; and family allowances or child allowances *that are contingent on student status*. Any benefits provided to students or households in the form of tax reductions, tax subsidies, or other special tax provisions are not included; *ii) Student loans*, which are reported on a gross basis – that is, without subtracting or netting out repayments or interest payments from the borrowers (students or households).

Full-time, part-time and full-time equivalent students (Tables 13, 21, 22)

Students are classified by their pattern of attendance, *i.e.*, full-time or part-time. The part-time/full-time classification is regarded as an *attribute of student participation* rather than as an attribute of the educational programmes or the provision of education in general. Four elements are used to decide whether a student is classified as full-time or part-time: the units of measurement for course load; a normal full-time course load, which is used as the criterion for establishing full-time participation; the student's actual course load; and the period of time over which the course loads are measured. In general, students enrolled in *primary and secondary level* educational programmes are considered to participate *full-time* if they attend school for at least 75 per cent of the school day or week (as locally defined) and would normally be expected to be in the programme for the entire academic year. Otherwise, they are considered *part-time*. When determining full-time/part-time status, the work-based component in combined school and work-based programmes is included. At the *tertiary level*, an individual is considered *full-time* if he or she is taking a course load or educational programme considered to require

at least 75 per cent of a full-time commitment of time and resources. Additionally, it is expected that the student will remain in the programme for the entire year.

The *full-time equivalent* (FTE) *measure* attempts to standardise a student's actual load against the normal load. For the reduction of head-count data to FTEs, where data and norms on individual participation are available, course load is measured as the product of the fraction of the normal course load for a full-time student and the fraction of the school/academic year. [FTE = (actual course load/normal course load) * (actual duration of study during reference period/normal duration of study during reference period).] When actual course load information is not available, a full-time student is considered equal to one FTE.

Full-time, part-time and full-time equivalent teachers (Tables 36)

The classification of educational personnel as "full-time" and "part-time" is based on a concept of statutory working time (as opposed to actual or total working time or actual teaching time). Part-time employment refers to individuals who have been employed to perform less than the amount of statutory working hours required of a full-time employee. A teacher who is employed for at least 90 per cent of the normal or statutory number of hours of work of a full-time teacher over the period of a complete school year is classified as a *full-time teacher* for the reporting of head-count data. A teacher who is employed for less than 90 per cent of the normal or statutory number of hours of work of a full-time teacher over the period of a complete school year is classified as a *part-time teacher*. *Full-time equivalents* are generally calculated in person years. The unit for the measurement of full-time equivalents is full-time employment, *i.e.* a full-time teacher equals one FTE. The full-time equivalence of part-time educational staff is then determined by calculating the ratio of hours worked over the statutory hours worked by a full-time employee during the school year.

Graduates (Tables 17, 18, 19, 20)

Graduates are those who were enrolled in the final year of a level of education and completed it successfully during the reference year. However, there are exceptions (especially at the university tertiary level of education) where graduation can also be recognised by the awarding of a certificate without the requirement that the participants are enrolled. *Completion* is defined by each country: in some countries, completion occurs as a result of passing an examination or a series of examinations. In other countries, completion occurs after a requisite number of course hours have been accumulated (although completion of some or all of the course hours may also involve examinations). *Success* is also defined by each country: in some countries it is associated with the obtaining of a degree, certificate, or diploma after a final examination; while in other countries, it is defined by the completion of programmes without a final examination.

Gross Domestic Product (GDP) (Tables 2, 22, 24, 25, 26)

Gross Domestic Product (GDP) refers to the producers' value of the gross outputs of resident producers, including distributive trades and transport, less the value of purchasers' intermediate consumption plus import duties. GDP is expressed in local money (in millions).

Intended instruction time for students (Table 36)

Intended instruction time for students refers to the number of hours per year pupils are instructed according to the compulsory and the flexible part of the curriculum. Compulsory subjects are to be taught by each school and to be attended by each student. Optional subjects form the flexible part of the curriculum.

The total number of intended instruction hours per year was calculated by multiplying the total number of classroom sessions per year by the duration time of one session.

The *intended curriculum* is the subject-matter content as defined by the government or the education system. The intended curriculum is embodied in textbooks, in curriculum guides, in the content of examinations, and in policies, regulations, and other official statements generated to direct the education system. Data for the United Kingdom and the United States, however, are based on sample survey data and reflect more the implemented curriculum than the curriculum required of all students.

Intergovernmental transfers

Intergovernmental transfers are transfers of funds designated for education from one level of government to another. The restriction to funds earmarked for education is very important in order to avoid ambiguity about funding sources. General-purpose intergovernmental transfers are not included (*e.g.* revenue sharing grants, general fiscal equalisation grants, or distributions of shared taxes from a national government to provinces), even where such transfers provide the funds that regional or local authorities draw on to finance education.

Labour force participation rate (Table 10)

The labour force participation rate for a particular age-group is equal to the percentage of individuals in the population of the same age-group who are either employed or unemployed, where these terms are defined according to the guidelines of the International Labour Office (ILO).

Net enrolment rates

Net enrolment rates (also referred to as enrolment rates) are calculated by dividing the number of students of a particular age group enrolled in all levels of education by the number of persons in the population in that age-group (times 100). Except where otherwise indicated, figures are based on head counts, that is, they do not distinguish between full-time and part-time study. A standardised distinction between full-time and part-time participants is very difficult since many countries do not recognise the concept of part-time study, although in practice at least some of their students would be classified as part-time by other countries. Note that in some countries part-time education is not completely covered by the reported data.

Net enrolment rates are published for the reference date that was used by national authorities for these statistics. The assumption is made that age references in the enrolment data refer to 1 January of the reference year. Population data are, where necessary, linearly interpolated to 1 January as the reference date. Some countries collect these statistics through surveys or administrative records at the beginning of the school year while others collect them during the school year, and yet others at the end of the school year or at multiple points during the school year. It should be noted that differences in the reference dates between, for example, enrolment data and population data can lead to errors in the calculation (*e.g.* net enrolment rates exceeding 100 per cent) in cases where there is a significant decrease or increase over time in any of the variables involved. If the reference date for students' ages used in the enrolment data differs from the reference date for the population data (usually 1 January of the reference year), this can be a further source of error in enrolment rates.

Enrolment rates are based on head counts of enrolments and do not differentiate between full-time and part-time enrolments.

Net entry rate (Table 17)

The *net entry rate of a specific age* is obtained by dividing the number of new entrants to the university level of that age by the total population in the corresponding age-group (times 100). The sum of net entry rates is calculated by adding the net entry rates for each single year of age. The result represents the proportion of persons of a synthetic age-cohort who enter the tertiary level of education, irrespective of changes in the population sizes and differences between countries in the typical entry age.

New entrants (Tables 17, 18, 19)

New entrants to a level of education are students who are entering any programme leading to a recognised qualification at this level of education for the first time, irrespective of whether students enter the programme at the beginning or at an advanced stage of the programme. Individuals who are returning to study at a level following a period of absence from studying at that same level are not considered new entrants.

Public and private educational institutions (Tables 16, 29, 34, 36)

Educational institutions are classified as either public or private according to whether a public agency or a private entity has the ultimate power to make decisions concerning the institution's affairs.

An institution is classified as *public* if it is: *i)* controlled and managed directly by a public education authority or agency; or *ii)* controlled and managed either by a government agency directly or by a governing body (Council, Committee, etc.), most of whose members are either appointed by a public authority or elected by public franchise.

An institution is classified as *private* if it is controlled and managed by a non-governmental organisation (*e.g.* a Church, a Trade Union or a business enterprise), or if its Governing Board consists mostly of members not selected by a public agency.

In general, the question of who has the ultimate management control over an institution is decided with reference to the power to determine the general activity of the school and to appoint the officers managing the school. The extent to which an institution receives its funding from public or private sources does *not* determine the classification status of the institution.

A distinction is made between "government-dependent" and "independent" private institutions on the basis of the degree of a private institution's dependence on funding from government sources. A *government-dependent private institution* is one that receives more than 50 per cent of its core funding from government agencies. An *independent private institution* is one that receives less than 50 per cent of its core funding from government agencies. "Core funding" refers to the funds that support the basic educational services of the institution. It does not include funds provided specifically for research projects, payments for services purchased or contracted by private organisations, or fees and subsidies received for ancillary services, such as lodging and meals. Additionally, institutions should be classified as government-dependent if their teaching staff are paid by a government agency – either directly or through government.

Public and private sources of funds (Table 29)

Public expenditure refers to the spending of public authorities at all levels. Expenditure that is not directly related to education (*e.g.* culture, sports, youth activities, etc.) is, in principle, not included. Expenditure on education by other ministries or equivalent institutions, for example Health and Agriculture, is included.

Private expenditure refers to expenditure funded by private sources, *i.e.* households and other private entities. "*Households*" means students and their families. "*Other private entities*" include private business firms and non-profit organisations, including religious organisations, charitable organisations, and business and labour associations. Private expenditure comprises school fees; materials such as textbooks and teaching equipment; transport to school (if organised by the school); meals (if provided by the school); boarding fees; and expenditure by employers on initial vocational education (see also *vocational and technical education*). Note that private educational institutions are considered service providers, not funding sources.

Public expenditure on educational institutions as a percentage of total public expenditure (Tables 2, 23)

Public expenditure on educational institutions includes both direct public expenditure on educational services and public subsidies to households and other private entities for educational institutions and public subsidies to households that are not attributable to payments to educational institutions.

The data on total public expenditure for all purposes (the denominator in all percentage calculations) have been taken from the World Bank.

Purchasing power parity (PPP) (Table 2)

Purchasing power parities (PPPs) are the currency exchange rates that equalise the purchasing power of different currencies. This means that a given sum of money, when converted into different currencies at the PPP rates, will buy the same basket of goods and services in all countries. In other words, PPPs are the rates of currency conversion which eliminate the differences in price levels among countries. Thus, when expenditure on GDP for different countries is converted into a common currency by means of PPPs, it is, in effect, expressed at the same set of international prices so that comparisons between countries reflect only differences in the volume of goods and services purchased. The purchasing power parities used are documented in the 2000 edition of OECD's *Education at a Glance*.

Repeaters (Table 14)

Students enrolling in the same grade or year of study a second or further time are classified as *repeaters* except if the new programme is classified as "higher" than the previous one. "Higher" is thereby operationalised by the individual countries. Repeaters are distinguished from participants in second and further educational programmes (the latter must have completed the programme at the level of education successfully before they can enter as participants in a second or further educational programme).

School expectancy (Table 13)

The average duration of formal education that a 5-year-old child can expect to enrol in over its lifetime, referred to as "school expectancy" in this indicator, is calculated by adding the net enrolment rates for each single year of age from age 5 onwards, and dividing by 100. Should there be a tendency to lengthen (or shorten) studies during the ensuing years, the actual average duration of schooling for the cohort will be higher (or lower). Caution is required when data on school expectancy are compared. Neither the length of the school year nor the quality of education is necessarily the same in each country.

It should be noted that the data in this indicator on participation do not account for many types of continuing education and training.

Students (Tables 13, 15, 28)

A *student* is defined as any individual participating in educational services covered by the data collection. The *number of students enrolled* refers to the number of individuals (head count) who are enrolled within the reference period and not necessarily to the number of registrations. Each student enrolled is counted only once.

Student/teaching-staff ratio (Table 36)

The *student/teaching-staff ratio* is obtained by dividing the number of full-time-equivalent students (see also *full-time, part-time and full-time equivalent students*) at a given level of education by the number of full-time-equivalent teachers (see also *full-time, part-time and full-time equivalent teachers*) at that same level and for that same type of institution.

Support personnel

Educational, administrative and professional staff covers non-teaching staff providing educational, administrative, and professional support to teachers and students. Examples are: principals, headteachers, supervisors, counsellors, librarians or educational media specialists, psychologists, curriculum developers, inspectors, and former teachers who no longer have active teaching duties. *Other support staff* covers personnel providing indirect support in areas such as: secretarial and clerical services, building and maintenance, security, transportation, catering, etc.

Teachers (Tables 30, 31, 32, 33, 34, 35, 36)

A *teacher* is defined as a person whose professional activity involves the transmission of knowledge, attitudes and skills that are stipulated in a formal curriculum to students enrolled in an educational programme. The teacher category includes only personnel who participate directly in instructing students.

This definition does not depend on the qualification held by the teacher or on the delivery mechanism. It is based on three concepts: *activity*, thus excluding those without active teaching duties – although teachers temporarily not at work (*e.g.* for reasons of illness or injury, maternity or parental leave, holiday or vacation) are included; *profession*, thus excluding people who work occasionally or in a voluntary capacity in educational institutions; and *educational programme*, thus excluding people who provide services other than formal instruction to students (*e.g.* supervisors, activity organisers, etc.), whether the programme is established at the national or school level.

In vocational and technical education, teachers of the "school element" of apprenticeships in a dual system are included in the definition, and trainers of the "in-company element" of a dual system are excluded.

Headteachers without teaching responsibilities are not defined as teachers, but classified separately. Headteachers who do have teaching responsibilities are defined as (part-time) teachers, even if they only teach for 10 per cent of their time.

Former teachers, people who work occasionally or in a voluntary capacity in schools, people who provide services other than formal instruction, *e.g.*, supervisors or activity organisers, are also excluded.

Teacher salaries (Tables 30, 31, 32, 33)

Teacher salaries reported in Tables 31-33 refer to the average scheduled gross salary per year for a full-time teacher with the minimum training necessary to be fully qualified at the beginning of his or her teaching

career. Reported salaries are defined as the sum of wages (total sum of money paid by the employer for the labour supplied minus the employer's contribution to social security and pension funding). Bonuses which constitute a regular part of the salary (such as a 13th month, holidays or regional bonuses) are included in the figures. Additional bonuses (for example, remuneration for teachers in educational priority areas, for participating in school improvement projects or special activities, or for exceptional performance) are excluded from the reported gross salaries but reported separately in percentage terms.

Salaries at 15 years' experience refer to the scheduled annual salary of a full-time classroom teacher with the minimum training necessary to be fully qualified and with 15 years' experience. The maximum salaries reported refer to the scheduled maximum annual salary (top of the salary scale) of a full-time classroom teacher with the minimum training to be fully qualified for his or her job.

Salary data are reported in accordance with formal policies for public institutions.

Teaching time (Table 36)

Teaching time (sometime also referred to as instructional time) is defined as the total number of hours per year for which a full-time classroom teacher is responsible for teaching a group or class of students, according to the formal policy in the specific country. Periods of time formally allowed for breaks between lessons or groups of lessons are excluded.

Teaching hours per year are calculated on the basis of teaching hours per day multiplied by the number of teaching days per year, or on the basis of teaching hours per week multiplied by the number of weeks per year that the school is open for teaching. The number of hours per year that are accounted for by days when the school is closed for festivities and celebrations are excluded.

If no formal data were available, it was acceptable to estimate the number of teaching hours from survey data.

Transfers and payments to other private entities

Government transfers and certain other payments (mainly subsidies) to other private entities (firms and non-profit organisations) can take diverse forms – for example, transfers to business or labour associations that provide adult education; subsidies to firms or labour organisations (or associations of such entities) that operate apprenticeship programmes; subsidies to non-profit organisations that provide student housing or student meals; and interest rate subsidies to private financial institutions that make student loans.

Typical ages (Tables 17, 18, 19, 20)

Typical ages refer to the ages that normally correspond to the age at entry and ending of a cycle of education. These ages relate to the theoretical duration of a cycle assuming full-time attendance and no repetition of a year. The assumption is made that, at least in the ordinary education system, a student can proceed through the educational programme in a standard number of years, which is referred to as the theoretical duration of the programme. The *typical starting age* is the age at the *beginning* of the *first* school/academic year of the relevant level and programme. The *typical ending age* is the age at the *beginning* of the *last* school/academic year of the relevant level and programme. The *typical graduation age* is the age at the *end* of the *last* school/academic year of the relevant level and programme when the qualification is obtained. Using a transformation key that relates the levels of a school system to ISCED, the typical age range for each ISCED level can be derived.

Unemployment rate (Table 11)

The *unemployed* are defined as individuals who are without work, actively seeking employment and currently available to start work. The employed are defined as those who during the survey reference week: *i)* work for pay (employees) or profit (self-employed and unpaid family workers) for at least one hour, or *ii)* have a job but are temporarily not at work (through injury, illness, holiday or vacation, strike or lock-out, educational or training leave, maternity or parental leave, etc.) and have a formal attachment to their job.

The *unemployment rate* is the number of unemployed divided by the number of labour-force participants (times 100). Individuals below 25 years of age have been excluded from the statistics, so as to base the analysis as much as possible on people who have completed their initial education.

Vocational and technical education (Tables 15, 18)

The WEI programme uses three categories to describe the orientation of educational programmes:

General programmes

General programmes refer to education which is not designed explicitly to prepare participants for a specific class of occupations or trades or for entry into further vocational/technical education programmes. Less than 25 percent of the programme content is vocational or technical.

Pre-vocational programmes

Pre-vocational programmes refer to education mainly designed as an introduction to the world of work and as preparation for further vocational or technical education. Does not lead to a labour-market relevant qualification. Content is at least 25% vocational or technical.

Vocational programmes

Vocational programmes refer to education which prepares participants for direct entry, without further training, into specific occupations. Successful completion of such programmes leads to a labour-market relevant vocational qualification

School-based and combined school and work-based programmes

The WEI programme divides vocational and technical programmes into school-based programmes and combined school and work-based programmes on the basis of the amount of training that is provided in school as opposed to training in the workplace. In *school-based* vocational and technical programmes, instruction takes place (either partly or exclusively) in educational institutions. These include special training centres for vocational education run by public or private authorities or enterprise-based special training centres if these qualify as educational institutions. These programmes can have an on-the-job training component, *i.e.* a component of some practical experience in the workplace. In *combined school and work-based programmes,* instruction is shared between school and the workplace, although instruction may take place primarily in the workplace. Programmes are classified as combined school and work-based if less than 75 per cent of the curriculum is presented in the school environment or through distance education. Programmes that are more than 90 per cent work-based are excluded.

A3
CROSS-REFERENCES BETWEEN DATA TABLES AND NOTES

Table 2	See notes on: Public expenditure on educational institutions as a percentage of total public expenditure; GDP; PPP
Tables 5, 6, 7, 8, 9	See notes on: Attainment
Table 10	See notes on: Attainment; Labour force participation rate
Table 11	See notes on: Attainment; Unemployment rate
Table 12	See notes on: Attainment; Earnings
Table 13	See notes on: School expectancy; Students; Full-time, part-time and full-time equivalent students
Table 14	See notes on: Repeaters
Table 15	See notes on: Students; Vocational and technical education
Table 16	See notes on: Public and private educational institutions
Table 17	See notes on: Graduates; New entrants; Typical ages
Table 18	See notes on: Graduates; New entrants; Typical ages; Vocational and technical education
Table 19	See notes on: Graduates; New entrants; Net entry rate; Typical ages
Table 20	See notes on: Graduates; Typical ages
Table 21	See notes on: Expenditure per student; GDP; Full-time, part-time and full-time equivalent students
Table 22	See notes on: Expenditure per student; GDP
Table 23	See notes on: Public expenditure on educational institutions as a percentage of total public expenditure
Tables 24, 25, 26	See notes on: Expenditure on educational institutions as a percentage of GDP; GDP
Table 27	See notes on: Current and capital expenditure
Table 28	See notes on: Direct expenditure on educational institutions; Students
Table 29	See notes on: Public and private sources; Public and private educational institutions
Tables 30, 31, 32, 33	See notes on: Teacher salaries; Teachers
Table 34	See notes on: Public and private educational institutions; Teachers
Table 35	See notes on: Teachers
Table 36	See notes on: Public and private educational institutions; Full-time, part-time and full-time equivalent students; Full-time, part-time and full-time equivalent teachers; Intended instruction time for students; Student/teaching-staff ratio; Teachers; Teaching time

BEST COPY AVAILABLE

A4
DATA TABLES

SYMBOLS FOR MISSING DATA

Four symbols are employed in the tables and graphs to denote missing data:

a	Data not applicable because the category does not apply.
m	Data not available.
n	Magnitude is either negligible or zero.
x	Data included in another category/column of the table.

Table 1 (Data for Figures 2.6, 2.7, and 2.8)
Number of people at the age of primary and lower secondary, upper secondary, and tertiary education as a percentage of the total population (1997)

	Percentage of the population			Change in the size of the population (1997=100)					
				Age 5-14		Age 15-19		Age 20-29	
	Age 5-14	Age 15-19	Age 20-29	1990	2007	1990	2007	1990	2007
WEI countries									
Argentina	19	9	16	99	105	83	100	85	119
Brazil	22	11	18	101	94	87	96	93	115
Chile	19	8	17	89	102	101	118	101	103
China	19	7	18	90	86	128	118	98	84
Egypt	26	12	16	87	99	78	118	89	138
India	25	9	17	89	102	91	117	89	118
Indonesia	22	11	18	100	99	96	100	85	107
Jordan	27	12	20	82	126	83	128	65	120
Malaysia	23	10	18	90	112	85	116	92	123
Paraguay	26	10	17	82	115	81	131	88	138
Philippines	24	10	18	90	111	82	116	85	124
Russian Federation	m	m	m	100	65	90	92	106	117
Sri Lanka	23	11	19	107	90	87	86	96	116
Thailand	18	10	19	106	86	104	92	93	94
Uruguay	16	8	15	101	106	97	101	91	103
Zimbabwe	29	11	16	85	99	87	126	86	129
				Change in the size of the population (1996=100)					
				Age 5-14		Age 15-19		Age 20-29	
				1990	2006	1990	2006	1990	2006
OECD countries (1996)									
Australia	14	7	15	96	107	113	109	99	95
Austria	12	6	15	92	96	102	107	109	89
Belgium	12	6	14	100	97	104	100	110	90
Canada	13	7	14	95	98	99	108	114	101
Czech Republic	13	8	15	119	86	99	76	88	97
Denmark	11	6	15	100	117	118	100	103	77
Finland	13	6	13	102	98	91	95	112	102
France	13	7	15	101	91	110	99	101	91
Germany	11	5	14	91	88	98	106	115	87
Greece	12	7	15	117	87	101	74	95	90
Hungary	12	8	15	121	85	99	75	87	93
Iceland	16	8	15	98	107	100	105	102	100
Ireland	17	9	15	114	79	98	79	88	104
Italy	10	6	16	117	91	124	79	104	73
Japan	11	7	15	118	92	120	77	89	83
Korea	15	9	19	m	m	m	m	m	m
Luxembourg	12	5	14	91	115	88	104	100	97
Mexico	24	11	19	99	103	99	102	82	107
Netherlands	12	6	15	95	101	119	108	110	80
New Zealand	15	7	15	94	110	111	113	96	94
Norway	13	6	15	95	107	120	110	102	81
Poland	16	8	14	107	76	87	86	95	121
Portugal	12	8	16	124	95	113	71	96	85
Spain	11	8	17	126	86	109	68	99	82
Sweden	12	6	14	91	103	113	117	101	86
Switzerland	12	6	14	90	101	106	114	114	88
Turkey	20	11	19	110	103	90	84	86	116
United Kingdom	13	6	15	96	94	107	108	111	90
United States	15	7	14	92	700	97	115	111	105
OECD average	*13*	*7*	*15*	*104*	*97*	*105*	*95*	*100*	*91*

Source: OECD Education Database.

BEST COPY AVAILABLE

Table 2 (Data for Figures 2.13, 2.14, 3.2, and 3.8)
GDP per capita, in equivalent US dollars converted using PPPs (1997) and other basic reference statistics

	GDP per capita (in equivalent US dollars converted using PPPs)	Gross Domestic Product (in equivalent millions US dollars converted using PPPs)	Purchasing Power Parity exchange rate (PPP)	Total public expenditure (in millions of local money)	Total public expenditure (in equivalent million US dollars converted using PPPs)	Total population
WEI countries						
Argentina	10 300	367 420.5391	0.884	85 772	97027.13	35 671 897
Brazil (1996)	6 480	1 017 876	0.76	222 872	m	157 079 573
Chile	12 730	186 143	173.71	6 909 976	39779.03	14 622 354
China (1996)	3 130	3 892 096	1.92	m	m	1 243 481 000
Egypt	3 050	179 454	1.39	70 783	50813.53	58 837 283
India	1 670	1 400 408	8.35	3 253 038	m	m
Indonesia	3 490	692 217	792.98	90 616 400	114272.67	198 342 900
Jordan	3 450	15 870	0.33	1 317	4 051.69	4 600 025
Malaysia	8 140	176 356	1.37	91 843	58 498.73	21 665 400
Paraguay	3 980	20 240	1 101.66	4 361 920	3 959.42	5 085 328
Philippines (1996)	3 520	246 230	8.79	237 678	29 318.24	69 951 808
Russian Federation (1996)	4 370	m	5.42	849 500	245 611.47	m
Sri Lanka	2 490	46 194	19.27	m	m	18 552 000
Thailand	6 690	405 407	11.90	984 000	82 675.18	60 599 000
Uruguay	9 200	30 041	6.28	41 748	6 653.10	3 265 333
Zimbabwe	2 350	25 546	3.93	32 592	8 288.90	10 870 557
	(1997)	(1995)	(1995)	(1995)	(1995)	(1995)
OECD countries						
Australia	20 210	370 075	1.348241	184 750	137 030.40	18 311 486
Austria	22 070	177 769	14.07738	1 236 987	87 870.54	8 054 802
Belgium	22 750	230 754	37.66401	4 360 029	115 761.15	10 143 047
Canada	22 480	686 474	1.236309	371 197	300 246.14	30 537 117
Czech Republic	10 510	108 346	11.7519	331 702	45 243.92	10 308 876
Denmark	23 690	124 397	8.627714	591 497	68 557.79	5 251 027
Finland	20 150	103 104	6.008442	526 783	54 387.31	5 116 826
France	22 030	1 283 377	6.622158	4 166 020	629 103.08	58 255 880
Germany	21 260	1 739 440	2.066177	1733.180	838 814.23	81 817 499
Greece	12 540	131 232	208.1753	9 497 628	45 623.22	10 465 059
Hungary	7 200	73 529	81.16329	2 994 200	16 891.06	10 212 300
Iceland*	21 970	5 887	77.77438	178 997	2 301.49	267 958
Ireland	20 710	74 879	0.650598	15 567.3	23 927.68	3 615 600
Italy	20 290	1 163 286	1589.185	923 000 000	580 800.83	57 332 996
Japan	24 070	3 022 476	176.7561	176 000 000	995 722.33	125 570 246
Korea	13 590	618 960	623.8734	73473 000	117 608.80	45 545 282
Luxembourg*	30 140	12 442	39.847	m	m	412 800
Mexico	8 370	773 384	2.632902	371 121.6	140 955.14	92 399 515
Netherlands	21 110	327 076	2.078285	381 210	183 434.90	15 493 889
New Zealand	17 410	62 990	1.509867	m	m	3 618 039
Norway	24 450	106 845	9.373459	443 139	47 275.93	4 369 957
Poland	6 520	251 733	1.3313	m	m	38 609 199
Portugal	14 270	141 569	122.0606	m	m	9 920 760
Spain	15 930	625 124	125.1383	26 607 200	212 622.55	39 241 931
Sweden	19 790	174 894	9.97203	1 104 748	110 784.66	8 837 496
Switzerland	25 240	178 254	2.061301	139 442	67 647.57	7 062 354
Turkey	6 550	392 411	22162.06	m	m	61 797 000
United Kingdom	20 730	1 185 275	0.670309	m	m	57 176 818
United States	29 010	7 659 742	1	2 512 000	2 512 000.00	264 038 000
OECD average	*18 788*					

* Iceland and Luxembourg: 1996.

Sources: World Bank, *World Development Indicators*, 1999; OECD databases.

BEST COPY AVAILABLE

Table 3 (Data for Figure 2.11)
Income disparity: Gini indices* and income distribution

		Percentage share of income or consumption accruing to income subgroup						
	Gini index	Lowest 10%	Highest 10%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
Argentina	m	m	m	m	m	m	m	m
Brazil	60.1	0.8	47.9	2.5	5.7	9.9	17.7	64.2
China	41.5	2.2	30.9	5.5	9.8	14.9	22.1	47.5
Egypt	32.0	3.9	26.7	8.7	12.5	16.5	21.4	41.1
India	29.7	4.1	25.0	9.2	13.0	16.8	21.7	39.3
Indonesia	36.5	3.6	30.3	8.0	11.5	15.1	20.8	44.9
Jordan	43.4	2.4	34.7	5.9	9.8	13.9	20.3	50.1
Malaysia	48.4	1.9	37.9	4.6	8.3	13.0	20.4	53.7
Paraguay	59.1	0.7	46.6	2.3	5.9	10.7	18.7	62.4
Philippines	42.9	2.4	33.5	5.9	9.6	13.9	21.1	49.6
Russian Federation	48.0	1.4	37.4	4.2	8.8	13.6	20.7	52.8
Sri Lanka	30.1	3.8	25.2	8.9	13.1	16.9	21.7	39.3
Thailand	46.2	2.5	37.1	5.6	8.7	13.0	20.0	52.7
Uruguay	m	m	m	m	m	m	m	m
Zimbabwe	56.8	1.8	46.9	4.0	6.3	10	17.4	62.3
OECD average***	***30.8***	***3.2***	***24.4***	***8.3***	***13.0***	***17.0***	***22.5***	***39.2***

Data year varies by country.
* For explanation of Gini index, see Annex.
** OECD average based on 22 countries.
Source: World Bank, *World Development Indicators*, 1999, Indicator 2.8 p. 70.

Table 4
Size of non-urban population and urban and rural poverty rates

	Percentage of population living in non-urban areas (1997)	Rural poverty rate	Urban poverty rate	Year for poverty data
Argentina	11			
Brazil	20	32.6	13.1	1990
China	32			
Egypt	55			
India	63	36.7	30.5	1992
Indonesia	73	14.3	16.8	1987
Jordan	27			
Malaysia	45			
Paraguay	46	28.5	19.7	1991
Philippines	44	53.1	28.0	1994
Russian Federation	25			
Sri Lanka	77	45.5	26.8	1990-91
Thailand	79			
Uruguay	9			
Zimbabwe	67			

"Urban" and "poverty" defined by each country. "Poverty rates" used here are relative measures that calculate the proportion of households or adults below a threshold level. For example, a poverty rate could represent the proportion of households in a country with incomes below forty percent of the median household income for the country.
Source: World Bank, *World Development Indicators*, 1999, Indicator 2.7 p. 66.

Table 5
Percentage of the population that has completed at least primary education, by age group (1997)

	Age 20-24	Age 25-29	Age 30-34	Age 25-34	Age 35-44	Age 45-54	Age 55-64
Argentina	92	89	86	88	80	72	61
Brazil	91	90	88	89	74	57	45
Chile	94	93	90	91	87	74	63
China	97	96	95	96	90	81	61
India	56	49	46	48	42	33	25
Indonesia	90	89	78	85	70	58	39
Jordan	95	94	91	92	81	61	36
Malaysia	97	96	95	96	92	82	61
Paraguay	78	76	73	75	62	47	34
Philippines	98	m	m	98	98	94	94
Uruguay	96	96	94	95	91	83	72
Zimbabwe	98	98	91	95	80	69	45

Source: OECD Education Database.

Table 6 (Data for Figure 2.4)
Percentage of the population that has attained at least lower secondary education, by age group (1997)

	20-24	25-29	30-34	25-34	35-44	45-54	55-64
Argentina	58	53	50	52	42	33	23
Brazil	47	45	44	44	40	27	17
Chile	88	85	81	83	75	54	40
China	70	65	67	66	57	34	23
India	42	35	32	34	28	20	13
Indonesia	56	51	38	45	28	22	13
Jordan	83	79	75	77	61	43	23
Malaysia	83	79	72	76	56	33	16
Paraguay	43	40	38	39	28	20	16
Philippines	73	m	m	69	66	44	44
Uruguay	65	64	56	64	53	40	27
Zimbabwe	73	68	65	67	38	30	18

Source: OECD Education Database.

Table 7 (Data for Figures 2.5 and 2.7)
Percentage of the population that has attained at least upper secondary education, by age group (1997)

	20-24	25-29	30-34	25-34	35-44	45-54	55-64
WEI countries							
Argentina	41	37	34	36	29	21	15
Brazil	26	29	29	28	26	19	12
Chile	61	57	51	54	38	33	24
China	19	17	19	18	22	10	10
India	15	13	11	11	9	6	3
Indonesia	37	34	26	30	17	13	7
Jordan	46	47	49	48	41	28	15
Malaysia	57	53	46	50	34	19	9
Paraguay	27	26	27	27	19	13	12
Philippines	57	m	m	56	53	35	35
Uruguay	33	40	36	38	34	26	17
Zimbabwe	10	14	20	16	14	14	12
OECD countries (1996)							
Australia	m	m	m	62	60	54	46
Austria	m	m	m	82	75	67	53
Belgium	m	m	m	70	58	47	31
Canada	m	m	m	85	81	73	56
Czech Republic	m	m	m	92	87	84	71
Denmark	m	m	m	74	70	65	50
Finland	m	m	m	83	76	60	40
France	m	m	m	74	64	56	38
Germany	m	m	m	86	85	81	71
Greece	m	m	m	66	52	36	22
Hungary	m	m	m	80	75	62	28
Ireland	m	m	m	66	54	38	30
Italy	m	m	m	52	46	31	17
Korea	m	m	m	88	63	41	25
Luxembourg	m	m	m	32	33	28	20
Netherlands	m	m	m	72	66	57	47
New Zealand	m	m	m	65	64	56	49
Norway	m	m	m	91	87	78	62
Poland	m	m	m	88	82	68	47
Portugal	m	m	m	32	24	15	9
Spain	m	m	m	50	34	20	11
Sweden	m	m	m	87	80	70	53
Switzerland	m	m	m	87	82	78	71
Turkey	m	m	m	23	19	14	7
United Kingdom	m	m	m	87	81	71	60
United States	m	m	m	87	88	86	77
OECD average	*m*	*m*	*m*	*72*	*65*	*55*	*42*

Source: OECD Education Database.

Table 8
Percentage of the population that has attained tertiary education, by age group (1997)

	25-29	30-34	25-34	35-44	45-54	55-64
WEI countries						
Argentina	10	11	11	10	7	4
Brazil	6	8	7	9	8	5
Chile	10	9	9	9	8	5
China	5	5	5	5	3	3
India	7	7	8	7	5	3
Indonesia	3	3	3	2	1	1
Jordan	30	22	30	26	18	9
Malaysia	11	10	11	8	6	3
Paraguay	10	12	11	8	6	3
Philippines	m	m	26	26	18	18
Uruguay	6	9	8	10	8	5
Zimbabwe	1	2	2	2	2	2
OECD countries (1996)						
Australia	m	m	25	29	24	17
Austria	m	m	9	10	7	5
Belgium	m	m	32	26	21	13
Canada	m	m	54	49	47	34
Czech Republic	m	m	11	12	10	8
Denmark	m	m	22	27	22	15
Finland	m	m	24	24	21	13
France	m	m	26	20	18	10
Germany	m	m	20	26	24	18
Greece	m	m	28	23	16	8
Hungary	m	m	14	15	15	9
Ireland	m	m	31	23	17	13
Italy	m	m	8	11	8	5
Korea	m	m	10	18	11	7
Luxembourg	m	m	11	14	12	6
Netherlands	m	m	25	25	21	16
New Zealand	m	m	24	27	27	21
Norway	m	m	30	30	26	17
Poland	m	m	15	13	14	9
Portugal	m	m	14	13	10	6
Spain	m	m	29	19	12	7
Sweden	m	m	28	32	29	18
Switzerland	m	m	23	24	22	17
Turkey	m	m	7	7	7	4
United Kingdom	m	m	24	24	21	17
United States	m	m	35	35	36	26
OECD average	*m*	*m*	*23*	*22*	*19*	*13*

Source: OECD Education Database.

Table 9 (Data for Figure 2.9 and 2.10) Percentage of the population that has attained a specific level of education, by age and gender (1997)

		At least upper secondary education				Tertiary education			
WEI countries		**Age 25-34**	**Age 35-44**	**Age 45-54**	**Age 55-64**	**Age 25-34**	**Age 35-44**	**Age 45-54**	**Age 55-64**
Argentina	Men	33	27	21	16	9	9	7	5
	Women	39	30	23	14	14	11	7	4
Brazil	Men	25	26	19	13	9	8	8	6
	Women	30	27	19	11	8	9	7	4
Chile	Men	53	39	35	26	10	11	9	6
	Women	56	37	31	23	9	8	6	5
China	Men	21	26	11	13	5	4	4	3
	Women	16	17	7	6	4	2	2	2
India	Men	19	16	11	7	12	11	8	5
	Women	7	4	2	1	5	4	2	1
Indonesia	Men	37	22	18	11	4	3	2	1
	Women	25	12	8	4	3	1	1	0
Jordan	Men	48	49	39	23	29	33	25	15
	Women	48	32	17	6	30	18	10	2
Malaysia	Men	51	39	24	14	11	10	7	4
	Women	49	29	11	5	10	6	3	1
Paraguay	Men	27	20	14	14	11	9	7	7
	Women	26	19	13	10	11	7	6	3
Philippines	Men	54	52	37	37	23	24	18	18
	Women	58	55	41	43	25	25	17	17
Zimbabwe	Men	21	19	17	17	2	3	3	3
	Women	11	9	10	8	1	2	1	1
OECD countries (1996)									
Australia	Men	70	70	64	57	25	30	27	19
	Women	55	50	43	36	26	28	21	14
Austria	Men	86	82	75	64	9	11	9	7
	Women	78	68	59	42	9	10	5	2
Belgium	Men	67	57	50	35	29	25	22	15
	Women	72	58	44	27	36	26	20	10
Canada	Men	83	80	73	58	53	51	50	39
	Women	87	83	73	55	56	48	43	30
Czech Republic	Men	94	92	91	84	12	15	12	11
	Women	91	82	76	58	10	10	8	4
Denmark	Men	74	74	70	58	21	24	23	17
	Women	75	65	61	43	24	30	21	13
Finland	Men	82	74	59	42	23	24	23	19
	Women	85	78	61	38	25	24	18	11
France	Men	74	68	61	44	24	19	19	11
	Women	75	61	51	31	28	21	16	8
Germany	Men	88	89	87	83	22	31	31	26
	Women	84	81	75	59	18	21	15	9
Greece	Men	65	53	40	27	26	26	20	12
	Women	67	50	31	17	30	20	12	5
Hungary	Men	82	80	70	51	11	14	17	12
	Women	78	70	54	26	17	16	13	6
Ireland	Men	62	52	36	29	31	25	18	14
	Women	71	57	41	32	32	22	16	11
Italy	Men	50	47	36	20	8	11	10	6
	Women	54	45	27	13	9	10	7	5
Korea	Men	90	73	55	41	34	25	16	12
	Women	86	52	26	10	26	10	6	2
Luxembourg	Men	33	38	34	27	13	17	17	10
	Women	32	29	21	13	10	10	7	5
Netherlands	Men	72	70	66	60	26	28	26	20
	Women	72	63	48	36	24	22	16	11
New Zealand	Men	68	70	63	59	23	25	24	20
	Women	63	59	49	38	25	30	30	22
Norway	Men	90	87	79	67	27	29	28	21
	Women	92	86	76	58	33	32	23	15
Poland	Men	87	82	72	55	11	11	14	11
	Women	89	81	64	40	18	16	13	8
Portugal	Men	29	24	17	11	11	12	9	7
	Women	36	25	14	8	17	14	10	6
Spain	Men	48	36	25	15	26	21	16	10
	Women	52	32	16	8	31	17	9	4
Sweden	Men	87	78	69	52	28	30	27	18
	Women	88	85	72	54	29	34	30	18
Switzerland	Men	91	86	88	85	31	34	36	27
	Women	82	77	68	58	34	34	30	17
Turkey	Men	28	25	19	10	8	9	10	5
	Women	18	13	8	5	5	5	4	1
United Kingdom	Men	88	85	79	70	25	26	22	18
	Women	86	76	64	52	23	23	19	16
United States	Men	86	87	87	78	34	34	40	30
	Women	88	89	86	77	37	36	32	22
OECD average	*Men*	*69*	*63*	*58*	*47*	*22*	*22*	*21*	*15*
	Women	*69*	*60*	*49*	*35*	*23*	*20*	*16*	*10*

Source: OECD Education Database

BEST COPY AVAILABLE

Table 10 (Data for Figure 2.18)
Labour force participation rate by level of educational attainment and gender for the population 25-64 years of age (1997)

		No schooling	Uncompleted primary	Completed primary	Lower secondary	Upper secondary	Non-university tertiary (ISCED 5B)	University level (ISCED 5A/6)
Argentina	M + W	55.0	61.9	66.8	73.4	76.3	87.1	94.0
	Men	76.8	86.1	91.2	93.5	92.8	94.6	97.3
	Women	16.4	19.3	42.7	50.1	60.8	84.3	89.9
Brazil	M + W	56.7	61.8	65.2	69.1	75.4	85.6	89.5
	Men	80.8	83.8	86.3	87.4	88.4	91.4	93.1
	Women	35.3	41.3	44.8	51.4	64.4	80.7	85.4
Chile	M + W	42.6	55.6	59.2	65.4	72.8	82.7	87.8
	Men	71.0	88.1	89.5	94.5	93.6	95.1	94.1
	Women	17.7	26.0	31.2	37.0	53.5	70.5	79.6
Indonesia	M + W	70.7	78.8	75.4	71.9	78.5	92.4 (combined)	
	Men	91.9	104.1	96.8	95.6	94.2	96.6 (combined)	
	Women	61.1	61.0	54.0	40.9	54.4	84.6 (combined)	
Malaysia	M + W	53.2	67.0 (combined)		72.1	79.9	91.0 (combined)	
	Men	87.4	93.3 (combined)		96.6	97.1	95.4 (combined)	
	Women	38.2	40.2 (combined)		41.3	59.2	84.2 (combined)	
Paraguay	M + W	52.7	68.8	77.3	83.6	85.3	92.6	91.3
	Men	87.0	95.8	95.4	98.9	97.0	100.0	97.4
	Women	32.6	43.7	58.3	64.1	73.6	86.2	83.9
Philippines	M + W	99.1	89.3 (combined)		70.5	67.1	a	63.6
	Men	125.8	111.0 (combined)		90.4	85.0	a	83.3
	Women	76.7	67.7 (combined)		51.0	48.4	a	46.5
Uruguay	M + W	38.0	59.6	72.2	81.2	85.0	90.1 (combined)	
	Men	53.1	78.7	90.1	94.8	94.4	96.2 (combined)	
	Women	27.9	39.2	54.5	68.6	77.4	86.5 (combined)	

Source: OECD Education Database.

Table 11
Unemployment rate by level of educational attainment and gender for the population 25-64 years of age (1997)

		No schooling	Uncompleted primary	Completed primary	Lower secondary	Upper secondary	Non-university tertiary (ISCED 5B)	University level (ISCED 5A/6)
Brazil	M + W	4.6	5.1	6.9	8.4	6.7	3.1	2.7
	Men	3.8	3.9	5.3	5.9	4.7	2.7	3.7
	Women	6.2	7.4	10.0	12.5	9.0	3.4	1.5
Chile	M + W	3.3	4.3	3.8	4.4	4.4	6.5	2.3
	Men	3.6	4.7	4.1	4.7	4.1	5.6	2.4
	Women	2.1	3.2	3.1	3.6	5.0	7.7	2.3
Indonesia	M + W	0.5	0.6	0.7	2.1	4.9	12.1 (combined)	
	Men	0.3	0.6	0.6	1.8	3.7	7.9 (combined)	
	Women	0.6	0.7	1.0	3.3	8.1	21.0 (combined)	
Malaysia	M + W	1.3	0.8 (combined)		1.2	0.9	0.5 (combined)	
	Men	1.5	0.8 (combined)		1.1	0.8	0.4 (combined)	
	Women	1.0	0.7 (combined)		1.3	1.0	0.7 (combined)	
Paraguay	M + W	4.1	3.6	3.5	3.6	3.6	3.0	2.7
	Men	4.4	2.3	3.2	2.6	2.8	3.5	2.8
	Women	3.7	6.1	4.0	5.5	4.5	2.5	2.7
Philippines	M + W	2.5	3.5 (combined)		5.8	6.5	a	8.9
	Men	2.5	3.3 (combined)		5.4	6.8	a	8.8
	Women	2.3	3.6 (combined)		6.4	5.9	a	9.2
Uruguay	M + W	8.4	8.4	8.5	8.6	7.0	2.2 (combined)	
	Men	6.0	7.3	5.8	5.4	5.2	1.4 (combined)	
	Women	11.4	10.7	13.0	12.8	8.7	2.7 (combined)	

Source: OECD Education Database.

Table 12 (Data for Figure 2.19)
Relative earnings of persons aged 25-64 with income from employment (upper secondary education = 100) by level of educational attainment (1996)

	Year	Below upper secondary education	Upper secondary	Non-university tertiary education	University education
WEI countries					
Brazil	**1996**	**39**	**100**	**224**	**359**
Chile	**1996**	**51**	**100**	**216**	**m**
OECD countries					
Australia	1995	89	100	111	142
Canada	1996	87	100	110	161
Czech Republic	1996	67	100	x	161
Denmark	1996	84	100	104	134
Finland	1995	93	100	125	185
France	1996	82	100	127	178
Germany	1996	76	100	110	158
Hungary	1996	72	100	x	169
Ireland	1994	85	100	123	183
Italy	1995	76	100	x	156
Netherlands	1995	86	100	x	137
New Zealand	1996	82	100	114	176
Norway	1996	85	100	124	142
Portugal	1996	64	100	x	184
Spain	1995	78	100	97	153
Sweden	1996	90	100	110	153
Switzerland	1996	71	100	146	161
Turkey	1994	69	100	x	147
United Kingdom	1996	74	100	80	181
United States	1996	67	100	118	183

Source: OECD Education Database.

BEST COPY AVAILABLE

Table 13 (Data for figures 2.1, 2.3, 2.8, 2.14 and 2.15)
School expectancy (in years) under current conditions[1], full-time and part-time education (1990 and 1997)

	1997						1990			
	All levels of education combined			Primary and lower secondary education	Upper-secondary education	Post-secondary non-tertiary	Tertiary education	All levels of education combined	Primary and lower secondary education	Upper-secondary and post-secondary non tertiary education	Tertiary education
	M+W	Men	Women	M+W				M+W			
WEI countries											
Argentina	15.4	14.8	16.0	10.2	1.7	a	2.4	m	m	m	m
Brazil[2]	14.8	14.6	15.0	10.5	2.2	a	0.7	11.8	8.7	1.3	0.6
Chile	14.2	m	m	8.3	3.3	a	1.5	13.1	8.2	3.1	1.0
China	10.1	m	m	8.5	1.2	0.1	0.3	m	m	m	m
Egypt	m	m	m	7.7	2.0	m	m	m	m	m	m
Indonesia	9.6	9.8	9.3	7.6	1.0	n	0.6	m	m	m	m
Jordan	11.6	m	m	9.0	1.4	a	1.0	m	m	0.8	0.7
Malaysia	12.1	11.9	12.3	8.4	1.6	0.1	0.8	10.7	8.4	1.2	0.4
Paraguay	11.2	11.1	11.2	9.0	1.1	a	0.4	m	m	m	m
Philippines	12.3	11.9	12.6	9.5	0.7	0.2	1.6	m	m	m	m
Thailand	m	m	m	9.0	3.0	m	1.5	m	m	m	m
Uruguay	14.9	14.0	15.7	9.9	2.2	a	1.7	m	m	m	m
Zimbabwe	9.6	10.2	9.2	8.9	0.7	a	n	m	m	m	m
OECD countries (1996 and 1990)											
Australia	19.3	19.1	19.3	11.4	4.2	x	3.6	16.2	13.7	x	2.8
Austria	15.8	16.0	15.5	8.1	4.3	x	2.0	14.3	11.8	x	1.6
Belgium	18.3	18.2	18.5	9.1	5.4	x	2.8	m	m	m	m
Canada	17.1	16.9	17.3	9.2	3.1	x	4.1	16.5	12.5	x	3.5
Czech Republic	14.6	14.5	14.6	8.2	4.0	x	1.1	13.9	12.0	x	0.9
Denmark	17.1	16.8	17.4	9.6	3.4	x	2.3	16.1	12.6	x	1.9
Finland	17.2	16.5	18.0	9.1	3.9	x	3.2	15.5	12.4	x	2.2
France	16.5	16.3	16.7	9.7	3.3	x	2.6	m	m	m	m
Germany	16.6	16.8	16.3	9.9	3.4	x	1.9	m	m	m	m
Greece	14.2	14.2	14.2	8.9	2.7	x	2.1	m	m	m	m
Hungary	14.8	14.7	15.0	8.1	3.9	x	1.3	13.8	11.6	x	m
Iceland	17.5	17.2	17.7	10.0	4.8	x	1.8	m	m	m	m
Ireland	15.6	15.4	15.8	9.1	2.7	x	2.2	14.5	11.6	x	1.4
Italy	m	m	m	8.2	m	x	m	m	m	m	m
Japan	m	m	m	9.1	3.0	x	m	12.6	12.1	x	m
Korea	14.8	15.4	14.2	9.0	2.8	x	2.5	m	m	m	m
Luxembourg	m	m	m	m	2.9	x	m	m	m	m	m
Mexico	12.0	x	x	9.1	1.2	x	0.8	11.8	10.2	x	0.8
Netherlands	17.5	17.8	17.1	10.6	3.7	x	2.2	16.7	14.0	x	1.8
New Zealand	17.2	16.8	17.7	10.2	4.0	x	3.0	14.8	13.0	x	2.0
Norway	17.1	16.9	17.4	8.9	3.8	x	2.8	16.0	12.5	x	2.3
Poland	14.8	m	m	7.8	4.0	x	1.9	m	m	m	m
Portugal	16.9	16.6	17.2	10.7	3.1	x	2.0	13.7	12.1	x	0.9
Spain	17.5	17.0	18.0	8.8	5.2	x	2.5	15.4	12.6	x	1.8
Sweden	18.0	17.1	18.9	9.5	4.6	x	2.2	m	m	m	m
Switzerland	15.7	16.3	15.2	9.5	3.2	x	1.5	15.3	12.3	x	1.3
United Kingdom	17.3	16.6	17.9	8.9	6.0	x	2.3	15.4	14.2	x	1.2
United States	16.8	16.5	17.2	9.4	2.6	x	3.7	16.3	11.8	x	3.4
OECD average	*16.4*	*16.1*	*16.5*	*9.3*	*3.5*	*0.3*	*2.3*	*14.9*	*12.4*	x	*1.8*

1. Education for children under the age of five is excluded.
2. Data for Brazil for 1991.
Source: OECD Education Database.

Table 14 (Data for Figure 2.15)
Percentage of students repeating current grade and expected years of repeating, primary and lower secondary education (1997)

	Percentage of students repeating current grade		Expected years of repeating primary and lower secondary education
	Primary education	Lower secondary	
Argentina	5.7	9.1	0.61
Brazil	25.8	19.7	2.23
Chile	4.2	4.6	0.34
China	1.2	0.2	0.07
Egypt	5.6	8.8	0.53
India	3.8	5.0	m
Indonesia	6.6	0.5	0.41
Jordan	1.0	1.5	0.12
Malaysia	a	a	a
Paraguay	8.4	4.7	0.57
Philippines	1.9	2.2	0.17
Russian Federation	1.4	1.1	m
Thailand	3.3	a	0.20
Uruguay	8.2	14.9	0.93

Source: OECD Education Database.

Table 15 (Data for Figure 2.22)
Percentage of full-time and part-time upper secondary enrolments, by type of programme (1997)

	General	Pre-vocational	Vocational
WEI countries			
Argentina	58	42 (combined)	
Brazil	59	a	41
Chile	58	a	42
Egypt	34	64	2
Indonesia	60	a	40
Jordan	76	a	24
Malaysia	93	a	7
Paraguay	87	a	13
Philippines	100	a	a
Thailand	53	a	47
Uruguay	81	a	19
Zimbabwe	a	81	19
OECD countries (1996)			
Australia	33	x	67
Austria	24	x	76
Belgium	32	a	68
Canada	m	x	m
Czech Republic	16	n	84
Denmark	47	a	53
Finland	48	a	52
France	46	n	54
Germany	24	a	76
Greece	68	a	32
Hungary	32	x	68
Iceland	57	x	31
Ireland	80	x	20
Italy	28	x	72
Japan	72	x	28
Korea	58	a	42
Luxembourg	35	a	65
Mexico	84	a	16
Netherlands	30	a	70
New Zealand	62	x	38
Norway	42	a	58
Poland	31	a	69
Portugal	74	n	26
Spain	61	n	39
Sweden	46	a	51
Switzerland	31	a	69
United Kingdom	43	2	57
OECD average	*46*	*x*	*53*

Source: OECD Education Database.

Table 16 (Data for Figure 2.20)
Percentage of students enrolled in public, government-dependent private, and independent private schools, primary and secondary education (1997)

	Public	Government-dependent private	Independent private	All private
Argentina	77.7	18.4	3.9	22.3
Brazil	87.8	a	12.2	12.2
Chile	56.8	34.4	8.8	43.2
Egypt	96.9	a	3.1	3.1
India	71.1	17.2	8.9	26.1
Indonesia	81.9	a	18.1	18.1
Jordan	76.8	a	23.2	23.2
Malaysia	97.7	a	2.3	2.3
Paraguay	80.8	9.7	9.6	19.3
Philippines	86.2	a	13.8	13.8
Thailand	83.8	16.2	a	16.2
Uruguay	86.0	a	14.0	14.0
Zimbabwe	16.9	85.1	a	85.1

Source: OECD Education Database.

Table 17 (Data for Figure 2.16)
Ratio of new entrants and graduates to population at the typical age of entry/graduation, lower secondary education (1997)

	Entry			Graduation		
	M + W	Men	Women	M + W	Men	Women
Argentina	93	92	94	57	51	63
Brazil	93	m	m	58	53	63
Chile	88	87	88	82	81	83
China	88	92	84	75	77	73
Egypt	84	m	m	m	m	m
India	57	65	48	m	m	m
Indonesia	62	64	58	44	45	43
Malaysia	91	92	91	81	78	84
Paraguay	68	68	68	33	30	36
Philippines	90	89	91	75	71	79
Russian Federation	98	m	m	m	m	m
Thailand	83	84	82	95	94	96
Uruguay	104	91	118	71	m	m

Source: OECD Education Database.

Table 18 (Data for Figure 2.16)
Ratio of new entrants and graduates to population at typical age of entry/graduation (times 100), upper secondary, by type of programme (1997)

	Entrants			Graduates						
	Total			Total			General		Vocational and apprenticeship	
	M + W	Men	Women	M + W	Men	Women	M + W	Women	M + W	Women
WEI countries										
Argentina	60	54	66	37	45	29	17	24	20	16
Brazil	58	x	x	38	32	44	19	22	19	22
Chile	85	84	86	52	48	57	29	33	23	23
Egypt	22	x	x	m	m	m	m	m	m	m
Indonesia	37	38	36	28	m	m	m	m	m	m
Malaysia	72	65	79	59	51	68	57	66	2	2
Paraguay	40	38	42	21	18	24	19	m	2	m
Philippines	67	62	72	67	62	72	67	72	a	a
Thailand	60	60	61	47	53	40	32	25	15	14
Uruguay	79	64	95	m	m	m	m	m	m	m
OECD countries (1996)										
Austria	m	m	m	86	88	84	15	18	71	66
Belgium (Flemish Community)	m	m	m	117	104	130	34	39	82	90
Canada	m	m	m	73	70	77	x	x	x	x
Czech Republic	m	m	m	83	81	85	11	14	71	70
Denmark	m	m	m	81	76	87	46	55	35	32
Finland	m	m	m	98	93	104	48	57	50	47
France	m	m	m	85	85	86	34	40	51	46
Germany	m	m	m	86	86	86	25	29	61	58
Greece	m	m	m	80	75	86	54	63	26	23
Hungary	m	m	m	86	m	m	25	33	59	m
Ireland	m	m	m	79	75	83	77	82	2	2
Italy	m	m	m	79	76	82	19	22	59	59
Japan	m	m	m	99	96	102	73	76	26	26
Korea	m	m	m	91	91	91	54	50	37	41
Mexico	m	m	m	26	m	m	22	m	4	m
Netherlands	m	m	m	81	m	m	33	m	48	m
New Zealand	m	m	m	93	86	99	63	67	30	33
Norway	m	m	m	117	133	101	49	56	68	45
Poland	m	m	m	94	m	m	25	m	69	m
Portugal	m	m	m	91	115	66	79	58	17	12
Spain	m	m	m	73	65	81	44	m	27	29
Sweden	m	m	m	81	80	82	27	34	54	48
Switzerland	m	m	m	81	86	76	20	23	61	53
United States	m	m	m	72	69	76	x	x	x	x
OECD average	*m*	*m*	*m*	*85*	*86*	*88*	*40*	*45*	*46*	*43*

Source: OECD Education Database.

Table 19 (Data for Figure 2.17)
Net entry rates for tertiary education and ratio of tertiary graduates to population at the typical age of graduation (1997)

	University level (ISCED 5A)						Non-university tertiary (ISCED 5B)					
	First time entrants			Graduation (1st qualifications)			First time entrants			Graduation		
	M+W	M	W	M+W	M	W	M+W	M	W	M+W	M	W
WEI countries												
Argentina	48	44	52	9	m	m	27	15	38	10	5	16
Brazil (ISCED 5A and 5B combined)	15	m	m	9	7	11	Included in ISCED 5A					
Chile[1,2]	32	34	30	11	11	11	13	14	12	10	11	9
China[1]	4	m	m	3	m	m	7	m	m	8	m	m
Egypt	m	m	m	14	15	12	m	m	m	2	3	2
Indonesia	8	m	m	5	6	5	4	m	m	3	3	3
Jordan	24	m	m	13	m	m	13	m	m	9	m	m
Malaysia	15	15	16	6	5	6	13	13	14	10	9	11
Paraguay	m	m	m	m	m	m	6	3	9	3	1	4
Philippines	49	39	59	24	20	28	a	a	a	m	m	m
Sri Lanka[1]	3	m	m	m	m	m	m	m	m	m	m	m
Thailand	38	33	42	12	13	14	18	18	18	9	9	8
Uruguay	26	21	31	6	m	m	20	10	30	5	m	m
OECD countries (1996)[3]												
Australia	m	m	m	36	29	43	m	m	m	m	m	m
Austria	29	26	31	10	11	10	m	m	m	5	2	7
Belgium	m	m	m	16	17	15	m	m	m	28	24	30
Canada	m	m	m	32	26	37	m	m	m	57	58	56
Czech Republic	m	m	m	13	12	13	m	m	m	6	4	8
Denmark	35	26	43	28	23	33	10	11	9	8	10	6
Finland	45	44	47	24	22	26	22	16	27	19	13	26
Germany	27	28	27	16	18	14	m	m	m	11	9	13
Greece	18	m	m	13	11	15	13	m	m	5	5	6
Hungary	35	32	38	22	18	26	a	a	a	a	a	a
Iceland	m	m	m	15	11	20	14	m	m	13	13	13
Ireland	29	28	30	25	25	26	24	23	24	16	17	15
Italy	m	m	m	13	11	14	m	m	m	3	2	4
Japan	m	m	m	23	31	15	m	m	m	30	18	43
Korea	m	m	m	26	29	22	m	m	m	20	18	22
Mexico	m	m	m	12	12	12	m	m	m	x	x	x
Netherlands	34	32	36	20	18	21	a	a	a	a	a	a
New Zealand	39	33	44	31	26	35	20	18	21	16	11	21
Norway	26	20	33	27	20	35	29	24	34	50	42	58
Poland	48	m	m	0	0	0	17	m	m	10	m	m
Portugal	m	m	m	16	11	20	m	m	m	6	4	9
Spain	m	m	m	26	21	31	m	m	m	2	3	2
Sweden	m	m	m	19	15	23	m	m	m	4	4	4
Switzerland	16	17	14	9	12	7	30	40	21	26	36	17
United Kingdom	41	39	43	34	33	36	25	24	27	12	10	13
United States	52	46	58	35	31	39	47	41	52	22	18	27
OECD average	*34*	*31*	*37*	*22*	*20*	*24*	*19*	*20*	*22*	*15*	*14*	*17*

1. Chile, China, the Philippines, Sri Lanka, and Uruguay: Number of entrants per 100 persons at typical entry age.
2. Chile: Includes students enrolled earlier in level, returnees to first and second programmes.
3. OECD: combines short and long first university programmes.
Source: OECD Education Database.

Table 20
Female graduates as a percentage of male graduates, by level of education (1990 and 1997)

	Lower secondary		Upper secondary		Tertiary[1]	
	1990	1997	1990	1997	1990	1997
Argentina	m	120	m	111	m	m
Brazil	125	117	138	136	150	156
Chile	102	100	113	114	m	89
China	m	86	m	76	m	m
Egypt	m	m	m	m	m	73
India	m	m	m	61	m	m
Indonesia	m	91	m	85	m	m
Jordan	96	m	97	m	125	124
Malaysia	m	103	m	126	91	118
Paraguay	m	m	m	m	m	m
Philipines	m	110	m	114	m	119
Russian Federation	m	m	m	m	m	121
Sri Lanka	m	m	m	m	m	m
Thailand	m	99	m	73	m	116
Uruguay	m	123	m	m	m	m
Zimbabwe	m	m	m	m	m	m

1. Tertiary includes ISCED 4 (where ISCED 4 exists), except: Brazil, Egypt, and Malaysia, includes ISCED 5A and 5B only.
2. Thailand, includes ISCED 5A, 5B, and 6 only.
Source: OECD Education Database.

Table 21 (Data for Figures 3.1 and 3.2)
Expenditure per student (US dollars converted using PPPs) on public and private institutions by level of education (based on full-time equivalents), 1997

	Pre-primary	Primary	Lower secondary	Upper secondary	All secondary	Post-secondary non-tertiary	Tertiary		
							All	Non-university (ISCED 5B)	University (ISCED 5A & 6)
WEI countries									
Argentina*	1 054	1 224	1 467	1781	1 575	a	11 552	1 494	m
Brazil*	820	859	921	1087	1 002	a	10 791	x	10 791
Chile	1 929	2 115	2 220	2337	2 292	a	8 775	4 616	9 820
Chile*	1 814	1 798	1 856	1689	1 757	a	8 512	8 512	8 512
India*	28	160	225	334	253	m	m	m	m
Jordan*	528	706	659	1176	807	m	m	m	m
Malaysia*	332	820	x	x	1 334	6 285	7 793	6 237	9 129
Paraguay*	x	482	x	x	690	x	19 271	19 271	m
Philippines*	74	373	570	570	570	3 189	2 170	a	2 170
Uruguay*	1 104	974	979	1536	1 221	a	2 394	4 062	2 096
Zimbabwe	m	353	x	x	647	x	m	m	m
OECD countries (1995)									
Australia	m	3 121	x	x	4 899	x	10 590	7 699	11 572
Austria *	4 907	5 572	x	x	7 118	x	7 943	12 834	7 687
Belgium (Flemish Community) **	2 391	3 270	x	x	5 770	x	6 043	x	x
Canada	5 378	x	x	x	x	x	11 471	10 434	12 217
Czech Republic	2 052	1 999	x	x	2 820	x	6 795	2 502	7 656
Denmark	4 964	5 713	x	x	6 247	x	8 157	x	x
Finland	5 901	4 253	x	x	4 946	x	7 315	6 933	7 412
France	3 242	3 379	x	x	6 182	x	6 569	x	x
Germany *	5 277	3 361	x	x	6 254	x	8 897	6 817	9 001
Greece **	x	x	x	x	1 950	x	2 716	1 750	3 169
Hungary *	1 365	1 532	x	x	1 591	x	4 792	a	4 792
Iceland	m	m	x	x	m	x	m	m	m
Ireland	2 108	2 144	x	x	3 395	x	7 249	x	x
Italy *	3 316	4 673	x	x	5 348	x	5 013	6 705	4 932
Japan	2 476	4 065	x	x	4 465	x	8 768	6 409	9 337
Korea	1 450	2 135	x	x	2 332	x	5 203	3 980	5 733
Luxembourg	m	m	x	x	m	x	m	m	m
Mexico	1 088	1 015	x	x	1 798	x	5 071	x	5 071
Netherlands	3 021	3 191	x	x	4 351	x	9 026	a	9 026
New Zealand	2 262	2 638	x	x	4 120	x	8 737	10 018	8 380
Norway *	m	m	x	x	m	x	9 647	x	x
Poland	m	m	x	x	m	x	m	m	m
Portugal *	m	m	x	x	m	x	6 073	x	x
Spain	2 516	2 628	x	x	3 455	x	4 944	3 973	4 966
Sweden	3 287	5 189	x	x	5 643	x	13 168	x	x
Switzerland *	2 436	5 893	x	x	7 601	x	15 685	8 226	18 365
Turkey *	m	m	x	x	m	x	m	m	m
United Kingdom **	5 049	3 328	x	x	4 246	x	7 225	x	x
United States	m	5 371	x	x	6 812	x	16 262	7 973	19 965
OECD average	*3 224*	*3 546*	*x*	*x*	*4 606*	*x*	*8 134*	*6 016*	*8 781*

* Public institutions only.
** Public and government-dependent private institutions only.
Source: OECD Education Database.

Table 22
Expenditure per student relative to GDP per capita on public and private institutions by level of education (1997)

	Pre-primary	Primary	Lower secondary	Upper secondary	All secondary	Post-secondary non-tertiary	Tertiary		
							All	Non-university (ISCED 5B)	University (ISCED 5A & 6)
WEI countries									
Argentina*	10.2	11.9	14.2	17.3	15.3	a	112.2	33.9	m
Brazil*	12.7	13.3	14.2	16.8	15.5	a	166.5	x	166.5
Chile	15.2	16.6	17.4	18.4	18.0	a	68.9	36.3	77.1
Chile*	14.3	14.1	14.6	13.3	13.8	a	66.9	66.9	66.9
India*	1.6	9.6	13.5	20.0	15.1	m	m	m	m
Jordan*	15.3	20.5	19.1	34.1	23.4	m	m	m	m
Malaysia*	4.1	10.1	x	x	16.4	77.2	95.7	76.6	112.2
Paraguay*	x	12.1	x	x	17.3	x	484.2	484.2	m
Philippines*	2.1	10.6	16.2	16.2	16.2	90.6	61.7	0.0	61.7
Thailand	m	m	m	m	m	m	m	m	m
Uruguay*	12.0	10.6	10.6	16.7	13.3	a	26.0	44.2	22.8
Zimbabwe	m	15.0	x	x	27.5	x	m	m	m
OECD countries (1995)									
Australia	m	16.0	x	x	25.1	x	54.3	39.4	59.3
Austria *	23.8	27.0	x	x	34.5	x	38.5	62.3	37.3
Belgium (Flemish Community) **	11.4	15.6	x	x	27.4	x	28.7	x	x
Canada	25.6	x	x	x	51.7	x	54.6	49.7	58.2
Czech Republic	19.9	19.4	x	x	27.3	x	65.9	24.3	74.2
Denmark	23.1	26.6	x	x	29.1	x	38.0	x	x
Finland	32.9	23.7	x	x	27.6	x	40.8	38.7	41.4
France	16.3	17.0	x	x	31.1	x	33.0	x	x
Germany *	21.0	16.4	x	x	30.5	x	43.4	33.2	43.9
Greece **	x	16.8	x	x	16.0	x	22.3	14.4	26.0
Hungary *	19.9	22.4	x	x	23.2	x	70.0	a	70.0
Iceland	m	m	x	x	m	x	m	m	m
Ireland	12.3	12.5	x	x	19.7	x	42.1	x	x
Italy *	17.0	24.0	x	x	27.5	x	25.8	34.5	25.3
Japan	11.3	18.5	x	x	20.4	x	40.0	29.2	42.6
Korea	11.6	17.1	x	x	18.6	x	41.6	31.8	45.8
Luxembourg	m	m	x	x	m	x	m	m	m
Mexico	14.8	13.8	x	x	24.4	x	68.8	x	69.0
Netherlands	15.2	16.1	x	x	21.9	x	45.4	a	45.4
New Zealand	13.3	15.6	x	x	24.3	x	51.5	59.1	49.4
Norway *	m	m	x	x	m	x	42.4	x	x
Poland	m	m	x	x	m	x	m	m	m
Portugal *	m	m	x	x	m	x	48.7	x	x
Spain	17.6	18.4	x	x	24.1	x	34.5	27.8	34.7
Sweden	17.5	27.7	x	x	30.1	x	70.2	x	x
Switzerland *	9.8	23.6	x	x	30.4	x	62.8	32.9	73.5
Turkey *	m	m	x	x	m	x	m	m	m
United Kingdom **	28.3	18.6	x	x	23.8	x	40.4	x	x
United States	m	20.1	x	x	25.5	x	60.9	29.8	74.7
OECD average	*18.4*	*19.4*	x	x	*26.6*	x	*46.0*	*31.8*	*49.8*

* Public institutions only.
** Public and government-dependent private institutions only.
Source: OECD Education Database.

Table 23 (Data for Figure 3.3)
Public expenditure on education as a percentage of total public expenditure, by level of education (1997)

	Pre-primary	Primary	Lower secondary	Upper secondary	Primary, secondary, and post-secondary non-tertiary	Tertiary	All levels combined
WEI countries							
Argentina	0.8	5.4	2.9	1.8	10.2	2.9	13.9
Brazil*	1.4	8.5	1.7	2.0	12.2	3.2	16.9
Chile	1.4	6.7	2.0	3.1	11.8	2.6	15.9
Malaysia	0.2	4.4	4.7 (combined)		9.1	4.1	14.1
Paraguay	10.8 (combined)		4.7 (combined)		15.4	3.7	19.1
Philippines*	0.04	16.4	4.6	1.1	22.7	4.5	28.3
Thailand**	3.2	6.7	2.6	2.2	11.5	4.7	21.9
Uruguay	0.9	4.0	1.9	2.3	8.2	2.6	11.8
Zimbabwe	m	m	m	m	16.7	5.4	22.0
OECD countries (1995)							
Australia	x	x	x	x	9.1	3.9	13.1
Austria	x	x	x	x	7.3	2.3	10.6
Belgium (Flemish Com.)	x	x	x	x	m	m	m
Canada	x	x	x	x	8.4	4.8	13.6
Czech Republic	x	x	x	x	9.3	2.0	13.1
Denmark	x	x	x	x	7.9	3.2	13.1
Finland	x	x	x	x	7.5	3.5	12.2
France	x	x	x	x	7.8	2.0	11.1
Germany	x	x	x	x	6.0	2.2	9.5
Greece	x	x	x	x	6.3	1.9	8.2
Hungary	x	x	x	x	6.2	1.8	9.4
Iceland	x	x	x	x	x	2.4	m
Ireland	x	x	x	x	9.0	3.1	13.5
Italy	x	x	x	x	6.3	1.4	9.0
Japan	x	x	x	x	7.8	1.2	9.8
Korea	x	x	x	x	14.2	1.4	17.5
Luxembourg	x	x	x	x	m	m	m
Mexico	x	x	x	x	16.7	4.2	23.0
Netherlands	x	x	x	x	5.5	2.6	8.8
New Zealand	x	x	x	x	m	m	m
Norway	x	x	x	x	9.2	4.6	16.7
Poland	x	x	x	x	m	m	m
Portugal	x	x	x	x	m	m	m
Spain	x	x	x	x	9.3	2.3	12.8
Sweden	x	x	x	x	7.5	3.2	11.6
Switzerland	x	x	x	x	10.9	2.9	14.7
Turkey	x	x	x	x	m	m	m
United Kingdom	x	x	x	x	m	m	m
United States	x	x	x	x	9.8	3.6	14.4
OECD average	*x*	*x*	*x*	*x*	*8.7*	*2.7*	*12.6*

* Brazil and the Philippines: 1996.
** Thailand: Tertiary includes ISCED 4.
Source: OECD Education Database.

Table 24 (Data for Figure 3.4)
Educational expenditure as a percentage of GDP for all levels of education combined, by source of funds (1997)

	Direct public expenditure for educational institutions	Total public subsidies to households and other private entities excluding public subsidies for student living costs	Private payments to educational institutions excluding public subsidies to households and other private entities	Total expenditure from both public and private sources for educational institutions	Total expenditure from public, private and international sources for educational institutions *plus* public subsidies to households	Private payments other than to educational institutions	Financial aid to students *not* attributable to household payments to educational institutions for educational services
WEI countries							
Argentina	**3.7**	**n**	**0.71**	**4.4**	**4.4**	**n**	**n**
Brazil	**4.8**	**m**	**m**	**m**	**m**	**m**	**m**
Chile	**3.2**	**0.12**	**2.52**	**5.9**	**5.9**	**m**	**0.03**
Malaysia	**4.4**	**n**	**0.32**	**4.7**	**4.7**	**0.07**	**n**
Paraguay	**3.7**	**n**	**m**	**m**	**m**	**n**	**n**
Philippines	**3.0**	**0.02**	**1.42**	**4.4**	**4.5**	**1.55**	**a**
Thailand	**4.5**	**m**	**m**	**m**	**m**	**m**	**m**
Uruguay	**2.6**	**a**	**m**	**m**	**m**	**a**	**a**
Zimbabwe	**6.5**	**n**	**n**	**6.5**	**6.8**	**n**	**0.29**
OECD countries (1995)							
Australia	4.5	0.18	1.00	5.6	6.1	0.48	0.48
Austria	5.3	0.21	n	5.5	5.6	a	0.12
Belgium (Flemish Community)	5.0	m	m	m	m	m	0.04
Canada	5.8	0.51	0.73	7.0	7.3	m	0.33
Czech Republic	4.8	n	0.84	5.7	6.0	m	0.34
Denmark	6.5	0.11	0.47	7.1	8.5	m	1.39
Finland	6.6	m	x	6.6	7.3	0.63	0.63
France	5.8	x	0.54	6.3	6.6	0.26	0.26
Germany	4.5	0.01	1.29	5.8	6.0	m	0.21
Greece	3.7	n	m	3.7	3.7	m	n
Hungary	4.9	n	0.61	5.5	5.7	m	0.16
Iceland	4.5	x	0.62	5.2	5.5	0.22	0.34
Ireland	4.7	0.12	0.42	5.3	5.7	m	0.37
Italy	4.5	0.12	0.01	4.7	4.7	m	0.03
Japan	3.6	m	1.16	4.7	4.7	m	m
Korea	3.6	m	2.58	6.2	6.2	m	n
Luxembourg	4.3	0.04	m	m	m	m	0.11
Mexico	4.6	x	0.97	5.6	5.6	0.32	x
Netherlands	4.6	0.24	0.12	4.9	5.4	0.60	0.47
New Zealand	5.3	0.28	m	m	m	m	0.59
Norway	6.8	n	m	m	m	m	x
Poland	5.2	m	m	m	m	m	m
Portugal	5.4	a	m	5.4	5.5	m	0.10
Spain	4.8	n	0.91	5.7	5.8	0.56	0.12
Sweden	6.6	n	0.11	6.7	7.9	1.20	1.20
Switzerland	5.5	0.06	m	m	m	m	0.11
Turkey	2.2	x	0.21	2.4	2.5	m	0.07
United Kingdom	4.6	0.22	m	m	m	0.31	0.31
United States	5.0	x	1.67	6.7	6.7	0.15	m
OECD average	*4.9*	*0.12*	*0.75*	*5.6*	*5.9*	*0.43*	*0.32*

Source: OECD Education Database.

Table 25
Educational expenditure as a percentage of GDP for primary and secondary education, by source of funds (1997)

	Direct public expenditure for educational institutions	Total public subsidies to households and other private entities excluding public subsidies for student living costs	Private payments to educational institutions excluding public subsidies to households and other private entities	Total expenditure from both public and private sources for educational institutions	Total expenditure from public, private and international sources for educational institutions *plus* public subsidies to households	Private payments other than to educational institutions	Financial aid to students *not* attributable to household payments to educational institutions for educational services
WEI countries							
Argentina	2.7	a	0.26	3.0	3.0	a	a
Brazil	3.5	m	m	m	m	m	m
Chile	2.5	a	1.15	3.7	3.7	m	0.01
India	1.9	m	0.09	2.0	2.0	m	0.00
Jordan	4.7	a	m	m	m	m	a
Malaysia*	3.0	0	0.01	3.0	3.0	0.02	0.01
Paraguay	3.0	a	m	m	m	n	a
Philippines*	2.4	0.02	0.49	2.9	2.9	1.18	a
Thailand	2.4	m	m	m	m	m	m
Uruguay	1.8	a	m	m	m	a	a
Zimbabwe	5.0	n	n	5.0	5.1	n	0.11
OECD countries (1995)							
Australia	3.2	0.03	0.47	3.7	4.0	0.29	0.29
Austria	3.8	0.01	0.06	3.9	3.9	a	0.02
Belgium (Flemish Community)	3.4	n	m	m	m	m	0.01
Canada	4.0	x	0.27	4.3	4.3	m	0.04
Czech Republic	3.4	n	0.46	3.9	4.2	m	0.26
Denmark	4.2	x	0.09	4.3	4.9	0.60	0.60
Finland	4.2	m	x	4.2	4.4	0.23	0.23
France	4.1	x	0.33	4.4	4.6	0.15	0.16
Germany	2.9	x	0.91	3.8	3.9	m	0.11
Greece	2.8	n	m	2.8	2.8	m	m
Hungary	3.3	n	0.30	3.6	3.7	m	0.02
Iceland	3.4	0.05	0.20	3.6	3.7	m	n
Ireland	3.1	n	0.13	3.4	3.6	m	0.18
Italy	3.2	0.04	n	3.2	3.2	m	n
Japan	2.8	m	0.26	3.1	3.1	a	a
Korea	3.0	n	0.87	3.8	3.8	m	m
Luxembourg	4.2	x	m	m	m	m	m
Mexico	3.4	n	0.65	4.0	4.0	0.27	x
Netherlands	3.0	0.10	0.10	3.2	3.4	0.26	0.19
New Zealand	3.8	0.05	m	m	m	m	0.17
Norway	4.1	n	m	m	m	m	m
Poland	3.3	m	m	m	m	m	m
Portugal	4.1	a	m	4.1	4.2	m	0.07
Spain	3.5	n	0.54	4.0	4.1	0.32	0.05
Sweden	4.4	n	0.01	4.5	5.1	0.61	0.61
Switzerland	4.1	0.05	m	m	m	m	0.06
Turkey	1.4	m	0.20	1.6	1.7	m	m
United Kingdom	3.8	0.03	m	m	m	0.03	0.03
United States	3.5	x	0.38	3.9	3.9	0.02	x
OECD average	*3.5*	*0.02*	*0.33*	*3.7*	*3.8*	*0.23*	*0.15*

* includes post-secondary non-tertiary education (ISCED 4).
Source: OECD Education Database.

Table 26
Educational expenditure from public and private sources for educational institutions as a percentage of GDP by level of education (1997)

		Primary and secondary education				Tertiary education			All levels of education combined (including pre-primary and undistributed)
	Pre-primary education	All	Primary and lower secondary	Upper secondary	Post-secondary non-tertiary	All	Non-university (ISCED 5A & 6)	University-level (ISCED 5B)	
WEI countries									
Argentina	0.4	3.0	2.4	0.6	a	1	0.4	0.7	4.4
Chile	0.4	3.7	2.6	1	a	1.8	0.2	1.6	5.9
Malaysia	0.1	3.0	x	x	m	1.4	0.4	0.9	4.7
Philippines	m	2.9	2.6	0.2	0.1	1.4	a	0.5	4.4
Zimbabwe	x	5.0	x	x	x	1.5	0.6	0.8	6.5
OECD countries (1995)									
Australia	x	3.7	x	x	x	1.8	0.3	1.5	5.6
Austria	x	3.9	x	x	x	1.0	0.1	0.9	5.5
Belgium (Flemish Community)	x	m	x	x	x	m	m	m	m
Canada	x	4.3	x	x	x	2.5	0.9	1.5	7.0
Czech Republic	x	3.9	x	x	x	1.0	0.1	1.0	5.7
Denmark	x	4.3	x	x	x	1.3	x	x	7.1
Finland	x	4.2	x	x	x	1.7	0.3	1.3	6.6
France	x	4.4	x	x	x	1.1	x	x	6.3
Germany	x	3.8	x	x	x	1.1	n	1.0	5.8
Greece	x	2.8	x	x	x	0.8	0.2	0.7	3.7
Hungary	x	3.6	x	x	x	1.0	a	1.0	5.5
Iceland	x	3.6	x	x	x	0.7	0.0	0.6	5.2
Ireland	x	3.4	x	x	x	1.3	x	x	5.3
Italy	x	3.2	x	x	x	0.8	n	0.8	4.7
Japan	x	3.1	x	x	x	1.0	0.1	0.9	4.7
Korea	x	3.8	x	x	x	1.9	0.4	1.5	6.2
Luxembourg	x	m	x	x	x	m	m	m	m
Mexico	x	4.0	x	x	x	1.1	x	1.1	5.6
Netherlands	x	3.2	x	x	x	1.1	a	1.1	4.9
New Zealand	x	m	x	x	x	m	m	m	m
Norway	x	m	x	x	x	m	m	m	m
Poland	x	m	x	x	x	m	m	m	m
Portugal	x	4.1	x	x	x	1.0	x	1.0	5.4
Spain	x	4.0	x	x	x	1.1	n	1.1	5.7
Sweden	x	4.5	x	x	x	1.7	x	x	6.7
Switzerland	x	m	x	x	x	m	m	m	m
Turkey	x	1.6	x	x	x	m	m	m	2.4
United Kingdom	x	m	x	x	x	1.0	x	x	m
United States	x	3.9	x	x	x	2.4	0.4	2.0	6.7
OECD average	x	*3.7*	x	x	x	*1.3*	*0.2*	*1.1*	*5.6*

Source: OECD Education Database

Table 27 (Data for Figure 3.5)
Population growth and capital expenditures (1997)

	Projected annual population growth rate 0-14 year-olds (1997-2010)	Capital expenditures as a percentage of all education expenditures primary and secondary education
Argentina[1]	-0.1	8.2
Brazil	-0.2	9.0
Chile[1]	-0.5	6.1
India[1]	-0.3	2.8
Jordan[1, 3]	1.6	14.0
Malaysia[1, 2]	0.4	11.5
Paraguay[1, 3]	0.5	6.9
Philippines[1, 2]	0.8	13.8
Uruguay[1]	-0.1	6.2
OECD average	*-0.9*	*8.0*

1. Public institutions only. India and Paraguay: Public and government-dependent private institutions only.
2. Includes post-secondary non-tertiary education (ISCED 4).
3. Includes pre-primary education.

Sources: World Bank, *World Development Indicators*, 1999, OECD Education Database.

Table 28 (Data for Figure 3.6)
Percentage distribution of enrolment[1] and expenditure[2], by level of education (1997)

	Pre-primary	Primary	Pre-primary and primary	Lower secondary	Upper secondary	Lower and upper secondary	Post-secondary, non-tertiary (ISCED 4)	Non-university tertiary (ISCED 5B)	University-level tertiary (ISCED 5A/6)	All tertiary (ISCED 5/6)
Argentina	10.8	44.2		20.1	11.8			3.6	9.5	13.1
	6.0	35.5		21.1	15.2			7.4	13.3	20.7
China	9.7	56.6		20.5	10.3					2.4
	1.2	51.6		20.3	8.4					21.8
Malaysia	10.4	49.1				34.0	0.6	3.3	2.5	5.8
	1.3	35.0				37.5	0.5	5.1	16.6	26.1
Paraguay			72.7			24.0				3.3
			56.3			29.3				39.3
Philippines	2.8	59.7		19.9	5.2		1.2			11.2
	0.1	60.5		16.6	4		2.6			16.2
Thailand	14.7	32.0		18.6	17.3			2.0	6.7	8.6
	16.7	34.6		13.5	11.4			4.2	19.8	24.1
Uruguay	10.7	45.2		19.2	14.4			2.9	7.6	10.4
	7.8	33.9		16.4	19.5			5.5	16.8	22.4

1. Enrolment including public and private, full-time and part-time participants, except those not allocated to a specific level.
2. Expenditure including all government expenditure for public and private institutions, except those not allocated to a specific level.

Source: OECD Education Database.

Table 29 (Data for Figure 2.21)
Source of funds for primary and secondary private education (1997)

	Percentage of students enrolled in private institutions	Percent of funding coming from: Government	Households	Other private entities
Argentina	22.3	56.5	43.5	n
Chile	43.2	40.9	58.2	0.9
...of which Government dependent private institutions	34.4	84.4	13.6	2.0
...of which Independent private institutions	8.8	1.2	98.8	n
India	26.1	92.8	7.2	n
Indonesia	18.1	56.0	44.0	m
Malaysia	2.3	n	100.0	m
Philippines	13.8	n	100.0	m

Source: OECD Education Database.

BEST COPY AVAILABLE

Table 30
Annual statutory teachers' salaries in public institutions at the pre-primary level, in equivalent US dollars converted using PPPs (1997)

WEI countries	Starting salary, minimum level of training			Salary after 15 years' of experience, minimum level of training			Salary at the top of salary scale, maximum qualifications			
	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Years from starting to top salary
Argentina	6 740	0.7	10.4	9 408	0.9	7.4	11 147	1.1	6.3	23
Brazil	4 605	0.7	m	6 376	1.0	m	16 080	2.5	m	25
Chile	12 711	1.0	54.3	15 233	1.2	45.3	21 237	1.7	32.5	30
Egypt	m	m	m	m	m	m	m	m	m	40
Indonesia	2 768	0.8	24.6	3 992	1.1	17.1	8 321	2.4	12.7	33
Jordan	7 326	2.1	a	8 935	2.6	a	16 985	4.9	a	41
Malaysia	6 550	0.8	6.3	10 876	1.3	7.1	15 554	1.9	7.9	29
Philippines	8 210	2.3	26.8	8 382	2.4	26.4	12 408	3.5	20.5	m
Thailand	6 412	1.0	a	15 759	2.4	a	42 867	6.4	a	17
Uruguay	6 225	0.7	15.7	7 458	0.8	15.7	13 340	1.5	13.1	12

* Maximum potential additional bonus as a percentage of annual salary.
Source: OECD Education Database.

Table 31 (Data for Figures 3.7 and 3.14)
Annual statutory teachers' salaries in public institutions at the primary level, in equivalent US dollars converted using PPPs (1997)

WEI countries	Starting salary, minimum level of training			Salary after 15 years' of experience, minimum level of training			Salary at the top of salary scale, maximum qualifications			
	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Years from starting to top salary
Argentina	**6 759**	**0.7**	**10.6**	**9 442**	**0.9**	**7.6**	11 206	1.1	**6.4**	23
Brazil	**4 732**	**0.7**	**m**	**6 451**	**1.0**	m	15 522	2.4	m	25
Chile	**12 711**	**1.0**	**54.3**	**15 233**	**1.2**	**45.1**	21 237	1.7	**32.3**	30
Egypt	m	m	m	m	m	m	m	m	m	38
Indonesia	**2 768**	**0.8**	**24.6**	**3 992**	**1.1**	**17.1**	8 321	2.4	12.7	33
Jordan	**7 326**	**2.1**	a	**11 594**	**3.4**	a	26 917	7.8	a	41
Malaysia	**6 550**	**0.8**	**6.3**	**10 876**	**1.3**	**7.1**	15 554	1.9	7.9	29
Philippines	**8 210**	**2.3**	**26.8**	**8 382**	**2.4**	**26.4**	12 408	3.5	20.5	22
Thailand	**6 412**	**1.0**	a	**15 759**	**2.4**	a	42 867	6.4	a	17
Uruguay	**6 225**	**0.7**	**15.7**	**7 458**	**0.8**	**15.7**	13 340	1.5	13.1	12
OECD countries (1996)							(Teachers at top of salary scale, minimum qualifications)			
Australia (New South Wales)	19 166	0.9		34 897	1.7		34 897	1.7		12
Austria	19 508	0.9		25 005	1.2		39 323	1.8		34
Belgium	19 924	0.9		27 055	1.2		32 194	1.5		27
Czech Republic	6 391	0.6		8 279	0.8		9 910	0.9		32
Denmark	23 269	1		28 388	1.3		29 086	1.3		10
Finland	17 664	0.9		23 384	1.2		24 057	1.3		20
France	19 474	0.9		26 298	1.3		36 409	1.8		32
Germany	28 384	1.3		35 885	1.7		38 703	1.8		22
Greece	13 941	1.1		17 156	1.3		20 699	1.6		32
Hungary	3 533	0.5		4 789	0.7		6 184	0.9		37
Ireland	22 681	1.2		35 061	1.8		41 495	2.2		24
Italy	17 725	0.9		21 392	1.1		25 941	1.3		35
Korea	23 675	1.7		42 311	3.1		67 353	5.0		41
Netherlands	23 321	1.1		28 424	1.4		34 947	1.7		26
New Zealand	15 267	0.9		22 821	1.3		22 821	1.3		8
Norway	17 328	0.7		21 127	0.9		21 416	0.9		14
Portugal	16 283	1.2		24 501	1.9		42 303	3.2		29
Spain	24 544	1.6		28 783	1.9		36 850	2.5		42
Sweden	16 246	0.8		20 815	1.1		m	m		m
Switzerland	32 508	1.3		43 467	1.7		50 048	2.0		23
Turkey	811	0.1		954	0.2		1 119	0.2		20
United Kingdom	19 434	1.0		29 948	1.6		29 948	1.6		8
United States	24 090	0.9		32 533	1.2		40 398	1.5		10
Country mean	*18 486*	*1.0*		*25 360*	*1.4*		*31 186*	*1.7*		*25*

* Maximum potential additional bonus as a percentage of annual salary.
Source: OECD Education Database.

Table 32 (Data for Figures 3.7 and 3.8)
Annual statutory teachers' salaries in public institutions at the lower secondary level, in equivalent US dollars converted using PPPs (1997)

	Starting salary, minimum level of training			Salary after 15 years' of experience, minimum level of training			Salary at the top of salary scale, maximum qualifications			
WEI countries	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Years from starting to top salary
Argentina	10 837	1.1	9.5	15 773	1.5	6.5	19 147	1.9	5.4	22.5
Brazil	8 413	1.3	m	10 998	1.7	m	14 224	2.2	m	25.0
Chile	12 711	1.0	54.3	15 233	1.2	45.3	21 217	1.7	32.5	30.0
Egypt	m	m	m	m	m	m	m	m	m	38.0
Indonesia	3 099	0.9	22.0	4 160	1.2	19.1	8 321	2.4	12.7	33.0
Jordan	7 326	2.1	a	11 594	3.4	a	26 917	7.8	a	41.0
Malaysia	12 535	1.5	6.9	19 819	2.4	7.4	27 417	3.4	7.4	29.0
Philippines	8 210	2.3	26.8	8 382	2.4	26.4	12 408	3.5	20.5	m
Thailand	6 412	1.0	a	15 759	2.4	a	42 867	6.4	a	37.0
Uruguay	6 225	0.7	15.7	7 458	0.8	15.7	13 340	1.5	13.1	32.0
OECD countries (1996)							(Teachers at top of salary scale, minimum qualifications)			
Australia (New South Wales)	19 166	0.9		34 897	1.7		34 897	1.7		12
Austria	20 181	0.9		26 249	1.2		42 041	2.0		34
Belgium	20 386	0.9		28 846	1.3		35 231	1.6		27
Czech Republic	6 391	0.6		8 279	0.8		9 910	0.9		32
Denmark	23 269	1.0		28 388	1.3		29 086	1.3		10
Finland	19 851	1.1		27 758	1.5		28 936	1.5		20
France	22 125	1.1		28 949	1.4		39 218	1.9		32
Germany	30 933	1.5		38 826	1.8		41 424	2.0		21
Greece	13 941	1.1		17 156	1.3		20 699	1.6		32
Hungary	3 533	0.5		4 789	0.7		6 184	0.9		37
Ireland	23 809	1.3		37 154	2.0		41 889	2.2		23
Italy	19 236	1.0		23 487	1.2		28 751	1.4		35
Korea	23 960	1.8		42 597	3.1		67 448	5.0		41
Netherlands	24 555	1.2		30 898	1.5		38 388	1.8		24
New Zealand	14 998	0.9		23 393	1.3		23 393	1.3		8
Norway	17 328	0.7		21 127	0.9		21 416	0.9		14
Portugal	16 283	1.2		24 501	1.9		42 303	3.2		29
Spain	24 544	1.6		28 783	1.9		36 850	2.5		42
Sweden	17 769	0.9		22 846	1.2		m	m		m
Switzerland	38 100	1.5		51 787	2.0		58 377	2.3		21
Turkey	811	0.1		954	0.2		1 219	0.2		20
United Kingdom	19 262	1.0		29 948	1.6		29 948	1.6		8
United States	23 581	0.8		31 327	1.1		41 616	1.5		30
Country mean	*19 305*	*1.0*		*26 649*	*1.4*		*32 688*	*1.8*		*25*

* Maximum potential additional bonus as a percentage of annual salary.

Source: OECD Education Database.

Table 33 (Data for Figures 3.7 and 3.14)
Annual statutory teachers' salaries in public institutions at the upper secondary level, in equivalent US dollars converted using PPPs (1997)

	Starting salary, minimum level of training			Salary after 15 years' of experience, minimum level of training			Salary at the top of salary scale, maximum qualifications			
WEI countries	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Average annual salary	Ratio of salary to per capita GDP	Percentage additional bonus*	Years from starting to top salary
Argentina	10 837	1.1	9.5	15 773	1.5	6.5	19 147	1.9	5.4	22.5
Brazil	8 148	1.3	m	11 152	1.7	m	14 530	2.2	m	25.0
Chile	12 711	1.0	56.4	15 915	1.3	45.1	22 209	1.7	32.3	30.0
Egypt	m	m	m	m	m	m	m	m	m	40.0
Indonesia	3 659	1.0	22.8	5 150	1.5	16.2	8 321	2.4	12.7	33.0
Jordan	7 326	2.1	a	11 594	3.4	a	26 917	7.8	a	41.0
Malaysia	12 535	1.5	6.9	19 819	2.4	7.4	27 417	3.4	7.4	29.0
Philippines	8 210	2.3	26.8	8 382	2.4	26.4	12 408	3.5	20.5	m
Thailand	6 412	1.0	a	15 759	2.4	a	42 867	6.4	a	37.0
Uruguay	6 847	0.7	15.7	8 204	0.9	15.8	14 672	1.6	13.1	32.0
OECD countries (1996)							(Teachers at top of salary scale, minimum qualifications)			
Australia (New South Wales)	19 166	0.9		34 897	1.7		34 897	1.7		12
Austria	21 448	1.0		28 740	1.3		47 228	2.2		14
Belgium	25 228	1.2		36 971	1.7		44 498	2.0		25
Czech Republic	7 216	0.7		9 355	0.9		11 216	1.0		12
Denmark	26 061	1.2		38 161	1.7		38 161	1.7		14
Finland	20 524	1.1		28 936	1.5		30 618	1.6		20
France	22 125	1.1		28 949	1.4		39 218	1.9		12
Germany	32 992	1.6		41 081	1.9		47 503	2.2		20
Greece	13 941	1.1		17 156	1.3		20 699	1.6		12
Hungary	4 506	0.6		5 943	0.9		7 430	1.1		17
Ireland	23 809	1.3		37 154	2.0		41 889	2.2		23
Italy	19 236	1.0		24 218	1.2		30 186	1.5		15
Korea	23 960	1.8		42 597	3.1		67 448	5.0		41
Netherlands	24 764	1.2		43 137	2.1		51 152	2.4		24
New Zealand	14 730	0.8		23 965	1.4		23 965	1.4		8
Norway	18 747	0.8		21 741	0.9		23 290	1.0		16
Portugal	16 283	1.2		24 501	1.9		42 303	3.2		29
Spain	28 464	1.9		33 405	2.2		41 915	2.8		19
Sweden	19 292	1.0		23 354	1.2		m	m		m
Switzerland	45 739	1.8		60 515	2.4		67 495	2.7		20
Turkey	811	0.1		954	0.2		1 119	0.2		20
United Kingdom	19 262	1.0		29 948	1.6		29 948	1.6		8
United States	23 815	0.9		33 953	1.2		41 615	1.5		10
Country mean	*20 527*	*1.1*		*29 114*	*1.6*		*35 627*	*1.9*		*25*

* Maximum potential additional bonus as a percentage of annual salary.
Source: OECD Education Database.

Table 34 (Data for figure 3.9)
Percentage of teaching force in each age group, all levels of education, public and private institutions (1997)

(Age groups, in years)	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and older	40 and older
Argentina	8.7	17.4	18.3	14.4	13.8	12.8	7.7	3.6	1.5	0.8	40.2
Brazil	12.2	15.1	18.1	15.4	12.9	9.3	4.2	1.6	0.5	0.1	28.6
Chile	1.7	8.4	14.8	16.2	18.7	17.5	11.2	6.5	3.3	1.8	59.0
Indonesia	9.9	30.0	23.7	21.7	3.3	6.5	1.5	2.9	0.7	n	14.8
Jordan*	12.2	23.4	24.1	18.7	9.6	5.7	3.2	1.2	n	n	19.6
Malaysia	7.6	24.3	26.2	15.9	12.1	5.7	5.6	2.5	n	n	25.9
Philippines	2.9	10.6	14.0	14.4	10.1	13.5	19.6	11.4	6.1	n	60.7

* Jordan: Does not include tertiary.
Source: OECD Education Database.

Table 35 (Data for Figure 3.10)
Percentage of teachers with tertiary-level qualifications, by level of education taught (1997)

	All levels	Pre-primary	Primary	Lower secondary	Upper secondary		
					All	General	Vocational
Argentina	70.0	83.2	67.0	65.0	65.0	65.0	65.0
Brazil	55.6	25.7	25.6	75.6	89.6	m	m
Chile	95.5	97.2	96.2	96.1	93.1	96.6	87.7
Egypt	56.3	m	17.2	87.8	76.0	97.4	65.1
Indonesia	30.9	2.1	10.3	32.0	73.8	73.9	73.7
Jordan	52.5	8.8	45.7	m	80.1	94.9	51.8
Philippines	100.0	100.0	100.0	100.0	100.0	100	a
Thailand	81.2	60.6	80.7	89.8	89.1	93.4	77.9
Zimbabwe	8.0	m	0.4	24.6	m	m	m

Source: OECD Education Database.

Table 36 (Data for Figures 3.11, 3.12, 3.13 and 3.14)
Classroom practices and working conditions for teachers in public schools (1997)

	Primary					Lower secondary[1]					Upper secondary	
	Annual hours of instruction, 9-year-old students	Ratio of students to teachers	Annual hours of instruction, teachers	Class size[1]	Annual student contact hours[4]	Annual hours of instruction, 13-year-old students	Ratio of students to teachers	Annual hours of instruction, teachers	Class size[1]	Annual student contact hours[4]	Annual hours of instruction, teachers	Ratio of students to teachers
Argentina	675	24.8	810	20.7	16 754	888	19.0	900	18.8	16 908	900	17.4
Brazil	800	27.3	800	27.3	21 824	800	35.2	800	35.2	28 120	800	36.3
Chile	925	29.4	860	31.6	27 169	1 005	29.4	860	34.4	29 527	860	27.8
China	771	m	m	m	m	893	m	m	m	m	m	m
Egypt	918	14.2	965	13.5	13 036	999	21.6	724	29.9	21 608	724	12.6
Indonesia	1 064	m	789	m	m	1 322	m	785	m	m	785	m
Jordan[5]	777	20.7	820	19.6	16 080	999	20.1	908	22.1	20 075	860	16.9
Malaysia	964	21.6	762	27.2	20 773	1 189	19.7	778	30.1	23 423	778	20.4
Paraguay[5]	696	19.6	692	19.7	13 614	960	10.4	810	12.3	9 955	810	10.4
Philippines	1 067	38.4	1 117	36.6	40 919	1 467	33.7	1 176	42.1	49 453	1 176	33.7
Thailand	1 080	20.9	m	m	m	1 167	24.3	m	m	m	543	26.3
Uruguay	455	20.7	732	12.8	9 404	863	14.0	712	16.9	12 055	712	29.8
Zimbabwe	m	37.2	708	m	m	m	22.5	708	m	m	708	5.5

1. Class size and student contact hours for primary level calculated based on hours of instruction for 9-year-old students.
2. Class size and student contact hours for lower secondary level calculated based on hours of instruction for 13-year-old students.
3. Class size is estimated as hours of instruction divided by statutory teaching hours times student teaching staff ratio.
4. Annual student contact hours is calculated as class size times annual hours of instruction of teachers.
5. Jordan and Paraguay: Lower and upper secondary student-teacher ratios reported together.

Source: OECD Education Database.

A5*a*

INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION (ISCED)

A5*b*

ALLOCATION OF NATIONAL EDUCATION PROGRAMMES ACCORDING TO ISCED

- Argentina
- Brazil
- Chile
- China
- Egypt
- India
- Indonesia
- Jordan
- Malaysia
- Paraguay
- Philippines
- Russian Federation
- Sri Lanka
- Thailand
- Uruguay
- Zimbabwe

A5a

INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION (ISCED)

0 PRE-PRIMARY LEVEL OF EDUCATION

Initial stage of organised instruction, designed primarily to introduce very young children to a school-type environment.

Main criteria

Should be centre or school-based, be designed to meet the educational and developmental needs of children at least 3 years of age, and have staff that are adequately trained (*i.e.*, qualified) to provide an educational programme for the children.

Auxiliary criteria

Pedagogical qualifications for the teaching staff; implementation of a curriculum with educational elements.

1 PRIMARY LEVEL OF EDUCATION

Normally designed to give students a sound basic education in reading, writing and mathematics.

Main criteria

Beginning of systematic studies characteristic of primary education, *e.g.* reading, writing and mathematics. Entry into the nationally designated primary institutions or programmes.

The commencement of reading activities alone is not a sufficient criteria for classification of an educational programmes at ISCED 1.

Auxiliary criteria

In countries where the age of compulsory attendance (or at least the age at which virtually all students begin their education) comes after the beginning of systematic study in the subjects noted, the first year of compulsory attendance should be used to determine the boundary between ISCED 0 and ISCED 1.

2 LOWER SECONDARY LEVEL OF EDUCATION

The lower secondary level of education generally continues the basic programmes of the primary level, although teaching is typically more subject-focused, often employing more specialised teachers who conduct classes in their field of specialisation.

Main criteria

Programmes at the start of level 2 should correspond to the point where programmes are beginning to be organised in a more subject-oriented pattern, using more specialised teachers conducting classes in their field of specialisation.

Programmes at the start of level 2 should correspond to the point where programmes are beginning to be organised in a more subject-oriented pattern, using more specialised teachers conducting classes in their field of specialisation.

Auxiliary criteria

If there is no clear break-point for this organisational change, however, then countries should artificially split national programmes into ISCED 1 and 2 at the end of 6 years of primary education.

In countries with no system break between lower secondary and upper secondary education, and where lower secondary education lasts for more than 3 years, only the first 3 years following primary education should be counted as lower secondary education.

If this organisational transition point does not correspond to a natural split in the boundaries between national educational programmes, then programmes should be split at the point where national programmes begin to reflect this organisational change.

3 UPPER SECONDARY LEVEL OF EDUCATION

The final stage of secondary education in most OECD countries.

Instruction is often more organised along subject-matter lines than at ISCED level 2 and teachers typically need to have a higher level, or more subject-specific, qualification that at ISCED 2.

Main criteria

National boundaries between lower secondary and upper secondary education should be the dominant factor for splitting levels 2 and 3.

Admission into educational programmes usually require the completion of ISCED 2 for admission, or a combination of basic education and life experience that demonstrates the ability to handle ISCED 3 subject matter.

Modular programmes

An educational qualification is earned in a modular programme by combining blocks of courses, or modules, into a programme meeting specific curricular requirements.

A single module, however, may not have a specific educational or labour market destination or a particular programme orientation.

Modular programmes should be classified at level 3 only, without reference to the educational or labour market destination of the programme.

4 POST-SECONDARY NON-TERTIARY

These programmes straddle the boundary between upper secondary and post-secondary education from an international point of view, even though they might clearly be considered as upper secondary or post-secondary programmes in a national context.

They are often not significantly more advanced than programmes at ISCED 3 but they serve to broaden the knowledge of participants who have already completed a programme at level 3. The students are typically older than those in ISCED 3 programmes.

ISCED 4 programmes typically have a full-time equivalent duration of between 6 months and 2 years.

Main criteria

Students entering ISCED 4 programmes will typically have completed ISCED 3. As described above, successful completion of any programme at level 3A or 3B counts as a level 3 completion.

For 3C programmes, a cumulative theoretical duration of 3 years is specified in ISCED-97 as the minimum programme length in order meet the requirements for a level 3 completion.

Types of programmes can fit into level 4

The first type are short vocational programmes where either the content is not considered "tertiary" in many OECD countries or the programme didn't meet the duration requirement for ISCED 5B – at least 2 years FTE since the start of level 5.

These programmes are often designed for students who have completed level 3, although a formal ISCED level 3 qualification may not be required for entry.

The second type of programmes are nationally considered as upper secondary programmes, even though entrants to these programmes will have typically already completed another upper secondary programme (*i.e.*, second-cycle programmes).

5 FIRST STAGE OF TERTIARY EDUCATION

ISCED 5 programmes have an educational content more advanced than those offered at levels 3 and 4

Classification criteria for level and sub-categories (5A and 5B)

Entry to these programmes normally requires the successful completion of ISCED level 3A or 3B or a similar qualification at ISCED level 4A or 4B. Programmes at level 5 must have a cumulative theoretical duration of at least 2 years from the beginning of the first programme.

5A ISCED 5A programmes that are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements.

1. have a minimum cumulative theoretical duration (at tertiary level) of three years (FTE);
2. typically require that the faculty have advanced research credentials;
3. may involve completion of a research project or thesis;
4. provide the level of education required for entry into a profession with high skills requirements or an advanced research programme.

5B ISCED 5B programmes that are generally more practical/technical/occupationally specific than ISCED 5A programmes.

1. it is more practically oriented and occupationally specific than programmes at ISCED 5A and does not prepare students for direct access to advanced research programmes;
2. it has a minimum of two years' full-time equivalent duration;
3. the programme content is typically designed to prepare students to enter a particular occupation.

6 SECOND STAGE OF TERTIARY EDUCATION (LEADING TO AN ADVANCED RESEARCH QUALIFICATION)

This level is reserved for tertiary programmes that lead to the award of an advanced research qualification. The programmes are devoted to advanced study and original research.

1. requires the submission of a thesis or dissertation of publishable quality that is the product of original research and represents a significant contribution to knowledge;
2. is not solely based on course-work;
3. prepares recipients for faculty posts in institutions offering ISCED 5A programmes, as well as research posts in government and industry.

Destination for which the programme have been designed to prepare students	Programme orientation
2A Programmes designed to prepare students for direct access to level 3 in a sequence which would ultimately lead to tertiary education, that is, entrance to ISCED 3A or 3B. 2B Programmes designed to prepare students for direct access to programmes at level 3C. 2C Programmes primarily designed for direct access to the labour market at the end of this level (sometimes referred to as "terminal" programmes).	1 Education which is not designed explicitly to prepare participants for a specific class of occupations or trades or for entry into further vocational/technical education programmes. Less than 25% of the programme content is vocational or technical. 2 Education mainly designed as an introduction to the world of work and as preparation for further vocational or technical education. Does not lead to a labour-market relevant qualification. Content is at least 25% vocational or technical. 3 Education which prepares participants for direct entry, without further training, into specific occupations. Successful completion of such programmes leads to a labour-market relevant vocational qualification.

Destination for which the programme have been designed to prepare students	Programme orientation
3A Programmes at level 3 designed to provide direct access to ISCED 5A. 3B Programmes at level 3 designed to provide direct access to ISCED 5B. 3C Programmes at level 3 not designed to lead directly to ISCED 5A or 5B. Therefore, these programmes lead directly to labour market, ISCED 4 programmes or other ISCED 3 programmes.	1 Education which is not designed explicitly to prepare participants for a specific class of occupations or trades or for entry into further vocational/technical education programmes. Less than 25% of the programme content is vocational or technical. 2 Education mainly designed as an introduction to the world of work and as preparation for further vocational or technical education. Does not lead to a labour-market relevant qualification. Content is at least 25% vocational or technical. 3 Education which prepares participants for direct entry, without further training, into specific occupations. Successful completion of such programmes leads to a labour-market relevant vocational qualification.

Destination for which the programme have been designed to prepare students	Programme orientation
4A Programmes at level 4, designed to provide direct access to ISCED 5A. 4B Programmes at level 4, designed to provide direct access to ISCED 5A. 4C Programmes at level 4 not designed to lead directly to ISCED 5A or 5B. These programmes lead directly to labour market or other ISCED 4 programmes.	1 Education which is not designed explicitly to prepare participants for a specific class of occupations or trades or for entry into further vocational/technical education programmes. Less than 25% of the programme content is vocational or technical. 2 Education mainly designed as an introduction to the world of work and as preparation for further vocational or technical education. Does not lead to a labour-market relevant qualification. Content is at least 25% vocational or technical. 3 Education which prepares participants for direct entry, without further training, into specific occupations. Successful completion of such programmes leads to a labour-market relevant vocational qualification.

Cumulative theoretical duration at tertiary	Position in the national degree and qualification structure
5A Duration categories: Medium: 3 to less than 5 years; Long: 5 to 6 years; Very long: More than 6 years.	5A Categories: Intermediate; First; Second; Third and further.
5B Duration categories: Short: 2 to less than 3 years; 3 to less than 5 years; Long: 5 to 6 years; Very long: More than 6 years.	5B Categories: Intermediate; First; Second; Third and further.

A5*b*
ALLOCATION OF NATIONAL EDUCATION PROGRAMMES ACCORDING TO ISCED

ARGENTINA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary	None		3	4	2	...	...	
0	0	Pre-primary (compulsory)	None		5	5	1	...	...	
1	1	Primary (Educacion General Básica, 1st and 2nd cycles)	Approval pre-primary, compulsory	None	6	11	6	6	...	
2	2	Lower Secondary, (Educación General Básica, 3rd cycle)	Approval of EGB, 2nd cycle	Lower Secondary diploma	12	14	3	9	...	
3	3	Upper Secondary (Polimodal)	Lower Secondary diploma	Upper Secondary diploma	15	17	3	12		
5B	5	Tertiary Non-University	Upper Secondary diploma	Diplomas of Primary Teacher or Secondary Professor or Lab. Technician or Computer Analyst, etc.	18	20-21	3-4	...	3-4	
5A (1st, long)	6 (1st, long)	Tertiary-University	Upper Secondary diploma	Diplomas of Licenciaturas (Humanities, Social Sciences, Sciences) or Professions (MD, Lawyer, Engineering)	18	22-23	5-6	...	5-6	
5A (2nd)	6 (2nd)	Master's, Post-graduate Courses	Tertiary University diploma (*e.g.*, Licenciatura, Accountant, Lawyer)	Master's degree, Specialization diploma	(a)	(a)	(a)	(a)	(a)	(a) ISCED 5A, 2nd degree programmes are just starting and do not have a uniform curricular organisation and entrance requirements. For these reasons it is difficult to indicate their typical starting and ending ages, duration, and so on.
6	7	Doctorate programmes	Tertiary University diploma (*e.g.*, Licenciatura, Accountant, Lawyer) or Master's degree	Doctorado	(b)	(b)	(b)	(b)	(b)	Requires submission of a thesis. (b) ISCED 6 programmes are just starting and do not have a uniform curricular organisation and entrance requirements. For these reasons it is difficult to indicate their typical starting and ending ages, duration, and so on.

BRAZIL

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Nursery schools			3	4	1	...	...	
0	0	Preschool/ Kindergarten			4	7	3	...	...	
1	1	Primary-1st cycle			7	11	4	4	...	
2	2	Primary-2nd cycle		Certificado de conclusão de estudos fundamental	11	15	4	8	...	
3	3	Secondary	Certificado de conclusão de estudos fundamental	Certificado de conclusão de estudos secundários	15	18-19	3-4	11-12		
5	5	Licenciatura courts or technical programmes	Certificado de conclusão de estudos secundários	Licenciatura courts/Tecnologo	18-19	20-22	2-3	...	2-3	Intermediate professional qualifications for middle-level staff and technicians.
5	6 (1st, short)	Licenciatura plena programmes	Certificado de conclusão de estudos secundários	Licenciatura plena	18-19	22-23	4	...	4	Awarded to students in philosophy, humanities or science who wish to become secondary-school teachers. Frequently obtained concurrently with the bacharelado.
5	6 (1st, short)	Bachelor's programmes (most subjects)	Certificado de conclusão de estudos secundários	Bacharelado	18-19	22-23	4	...	4	
5	6 (1st, long)	Bachelor's programmes (some subjects)	Certificado de conclusão de estudos secundários	Bacharelado (architecture, law, medicine)	18-19	23-25	5-6		5-6	
5	6 (2nd)	Master's Programmes	Bacharelado or licenciatura	Mestrado	22 upwards	22 upwards	3		7-9	Requires an examination and the submission of a thesis.
6	7	Doctorate programmes	Mestrado or licenciatura plena or bacharelado	Doutorado	22 upwards	26 upwards	4		8-13	

CHILE

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary			2	4				
0	0	Pre-primary: Prekinder and Kindergarten			4	6				
1	1	Basic education (1st-6th grades)			6	12	6	6		It is recommended that the last two years of Basic Education be reported at ISCED 2.
2A	2	Basic education (7th-8th grades)		Basic Education License	12	14	2	8		
3A	3	Middle education – General (9th-12th grades)		Middle Education License	14	18	4	12		
3B		Middle education – Vocational Programmes (9th-12th grades)		Middle Education License	14	18	4	12		
5B	5	Higher Education – Technical Programmes	Middle education license and passing a National Exam. required for tertiary education	Technical Diploma with specific specialization	18	22	4		4	Training for technicians.
5A (1st stage, long)	6 (1st, long)	Higher Education – Bachelor – All professional programmes	Middle education license and passing a National Exam. required for tertiary education	Bachelor or other professional qualification	18	23	5		5	The first degree in most universities.
5A (2nd stage)	6 (2nd)	Higher Education – 2nd Title – All professionnal programmes	Bachelor or other professionnal qualification	Post-diploma	23	23	1		6	
6	7	Magister and doctoral programmes	Bachelor or other professionnal qualification	Magister or PhD	23	25	2		7	

PEOPLE'S REPUBLIC OF CHINA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-school			3	6				Mostly full time
1	1	Primary			6-7	11 or 12	5 or 6			
2	2	Junior middle school			11-12	14 or 15	3 or 4	9		
3	3	Senior high school			15	18	3	12		
4		Post-secondary non-tertiary programmes								Generally, occupationally specific training but at a lower level than the programmes reported in 5B
5B	5	Non-university level post-secondary	12 years of primary and secondary education and success in annual national undergraduate entrance examination	Diploma	18	20-21	2-3			
5A (1st, short)	6 (1st, short)	University-level education (4 years programmes)	12 years of primary and secondary education and success in annual national undergraduate entrance examination	Bachelor's degree	18	22	4		4	
5A (1st,long)	6 (1st,long)	University-level education (5 years programmes)	12 years of primary and secondary education and success in annual national undergraduate entrance examination	Bachelor's degree	18	23	5		5	Engineering and medicine.
5A (2nd)	6 (2nd)	Master's programmes	Bachelor's degree	Master's degree	22	24-25	2-3		6-7	Candidates are usually required to submit a research project and a thesis
6	7	Doctorate programmes	Master's degree	Doctor's degree (PhD.)	24-25	27-29	3-4		9-11	

ANNEX A5b

EGYPT

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0		Pre-primary			4	6	2			
1		Pre-primary			6	11	5	5		
2		Preparatory school		Basic Education Certificate	11	14	3	8		
3A		General secondary school	Higher score in basic education certificate examination	Secondary School Leaving Certificate (Thanawiya Amma)	14	17	3	11		Must pass Secondary School Leaving Examination to graduate.
3B		Vocational school	Basic Education Certificate		14	17	3	11		Egypt has well over 500 technical schools, almost 50 per cent of all secondary schools.
4		Industrial, commercial and technical institutes	Secondary School Leaving Certificate (Thanawiya Amma)	Certificate	17	19-21	2-4	11-15		Some new institutions offer programmes of less than 2 years' duration.
5B		Industrial, commercial and technical institutes or technical programme within university		Diploma (accountancy, secretarial work, insurance, computer sciences, etc.) or technical degree	17	19-22	2-5	...	2-5	Egypt has 34 higher technical institutes, with about 8 per cent of higher education enrolment. Some universities also offer 2-year, occupationally-specific programmes.
5A (short)		University (main stage)	Higher score on Secondary Leaving Examination	Baccelaureos or licence	17	21-23	4-6		4-6	
5A (2nd)		University (2nd stage)	Baccelaureos or licence	Magister	21-23	23-25	2		6-8	
6		University (3rd stage)	Magister	Doktora	23-25	25+	2+		8 and above	

INDIA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary	Test, age (3-5)	Pre primary	3	5 or 6	2 or 3			Nursery, kindergarten, (upper) pre-primary.
1	1	Primary	Age 6	Primary	6	12	6	6		In some provinces admission to class I is 5+ years, in others it is 6+years.
2A	2	Upper primary	Primary	Upper primary	12	15	3	9		In some provinces, the state school boards conduct public examinations at class VIII. Candidates have to pass a minimum of 5 subjects.
2C		ITI (various lower level technical or vocational programmes)	Upper primary pass	ITI certificate	15	16	1	9		The examinations are conducted by the State Technical Boards supervised by the National Council for Vocational Training.
3A	2 one year of three (excluding graduates)	High school	Upper primary pass	Matriculation certificate	15	16	1	10		Matriculation certificate awarded after ten years' schooling and a public examination organized by the secondary boards.
3A	3	Senior secondary	Matriculation certificate	Senior secondary school-leaving certificate	16	18	2	12		Must pass 5 subjects at the public examination.
5B	5	3-year technical programmes	Senior secondary school-leaving certificate	Bachelor's degree	17 or 18	20 or 21	3		3	Nursing and paramedical studies.
5B		4-year technical programmes	Senior secondary school-leaving certificate	Bachelor's degree	17 or 18	21 or 22	4		4	Agriculture, horticulture and engineering.
5B		5-year professional programmes	Senior secondary school-leaving certificate	Bachelor's degree	17 or 18	22 or 23	5		5	Architecture.
5A (1st, short)	6 (1st, short)	First degree programmes	Higher senior-secondary pre-university certificate	Bachelor's degree	17 or 18	20 or 21	3		3	
5A (2nd)	6 (2nd)	Bachelor of education programmes	Bachelor's degree	Bachelor of education	20 or 21	21 or 22	1		4	
5A (2nd)	6 (2nd)	LL.B programmes	Bachelor's degree	LL.B. (law)	20 or 21	23 or 24	3		6	
5A (2nd)	6 (2nd)	Master's programmes	Bachelor's degree	Master's degree	20 or 21	22 or 23	2		5	
6		Master of philosophy programmes	Master's degree	Master of Philosophy (MPhil)	22 or 23	23 or 24	1		6	
6	7	Doctorate programmes	Master's/Master of Philosophy	Doctor of Philosophy (Ph. D.)			3-4		9-10	Requires submission of a thesis containing original research work.
6 (2nd)		Doctor of Letters programmes	Doctor of Philosophy (Ph. D.)	Doctor of Literature (DLitt)/Doctor of Science (D. Sc.)			2-3		10-12	Awarded by some universities.

INDONESIA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary (playgroup)			3	5	1-2			
0	0	Kindergarten	Age 6	Primary	5	7	1-2			
2A, Type 1	2	Junior secondary, General	Primary school graduates	Junior Secondary graduates	13	16	3	9		
2A, Type 2	2	Junior secondary, other	Primary school graduates	Junior Secondary graduates	13	16	3	9		Provides access to technical/ vocational senior secondary schools. Most are private.
3A, Type 1	3	Senior secondary, General	Junior Secondary graduates	Secondary school leaving certificate	15	16	1	10		
3B, Type 3	3	Senior secondary, Technical/ vocational	Junior Secondary graduates	Secondary school leaving certificate	16	19-20	3-4	12 or 13		Most are private.
3C, Type 3	3	Senior secondary, other	Junior Secondary graduates	Secondary school leaving certificate	16	19	3	12		
5B (1st)	5 (except graduates of 1-year course)	Diploma I programmes	Secondary school leaving certificate and an entrance examination	Diploma (DI)	18	19 or 20	1-2		1-2	
5B (1st)	5	Diploma II programmes	Diploma (DI)	Diploma (DII)	19 or 20	20 or 21	1		2	
5B (2nd)	5	Diploma III programmes	Diploma (DII)	Diploma (DIV)	21 or 22	21 or 22	1		3	Entitles graduates to teach one subject at upper secondary level.
5A (1st, short)	6 (1st, short)	Diploma IV programmes	Diploma (DIII)	Diploma (DIV)	21 or 22	22 or 23	1		4	Equivalent to Graduate Diploma (SI).
5A (1st, short and long)	6 (1st, short and long)	Degree stream	Secondary school leaving certificate and an entrance examination	Graduate Diploma (SI)	19	24 or 26	4-6		4-6	Most degrees are 4 years, some like law and medicine take longer.
5A (2nd)	6 (2nd)	Specialist I programmes	Diploma (DIV)	Specialist I (SpI)	23	25-28	2-5		6-9	Certificate awarded in the non-degree stream equivalent to Master's. Usually requires original research or a special contribution to a field of study.
5A (2nd)	6 (2nd)	Master's programmes	Graduate Diploma (SI)	Master's degree (SII)	24-26	26-28	2		6-8	
6	7	Specialist II programmes	Specialist I (SpI)	Specialist II (SpII)	26-29	28 upwards	2-5		8-13	Equivalent to a Doctorate. Usually requires original research or a special contribution to a field of study.
6	7	Doctorate programmes	Master's degree (SII)	Doctorate degree (SIII)	26-28	28 upwards	2-5		8-13	Includes professional degrees awarded in faculties of medicine, veterinary medicine and dentistry.

JORDAN

ISCED-97 level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0		Pre-school education			4	6	2			Run almost exclusively by private agencies.
1		Basic education – primary			6	12	6	6		
2		Basic education – preparatory			12	16	4	10		
3A		Comprehensive secondary education			16	18	2	12		
3C, Type 3 (counts as ISCED 3 completion)		Applied secondary education			16	18	2	12		Preparation of skilled workers in training centres and formal apprenticeship schemes. Apprenticeships are followed by one year of supervised employment.
5B	5	Community college programmes	Passage of General (Academic) Secondary Education Certificate Examination	Diploma	18	20	2		2	All students meet the same general requirements and are awarded the same qualification. Community colleges provide a variety of programmes; one of them is teacher training.
5B	5	Community college programmes	Passage of General (Academic) Secondary Education Certificate Examination	Diploma; entrance to ISCED 5A university programmes	18	20	2		2	Graduates with highest marks can enter labour force, or ISCED 5A university programmes if they wish.
5B	5	Community college programmes	Passage of General (Academic) Secondary Education Certificate Examination	Diploma in technology	18	21	3		3	
5A (1st, short and long)	6 (1st, short and long)	University programmes	Community college diploma and teaching experience	Bachelor's degree	21+	24+	3		3	Appointed teachers with community college diplomas can enter ISCED 5A university programmes through special government programme for upgrading teacher qualifications (they are exempt from 48 out of 132 hours required for bachelor's degree). In addition, about 5 per cent of appointed teachers with community college diplomas can enter university through bridgement programmes.
5A (1st, short and long)	6 (1st, short and long)	University programmes	Passage of General (Academic or Vocational) Secondary Education Certificate Examination or Community College Diploma with high marks	Bachelor's degree	18	22-24	4-6		4-6	5 year programmes in engineering, pharmacy and dentistry, 6 year programme in medicine.
5A (2nd)	6 (2nd)	Education diploma programmes	Bachelor's degree	Diploma in education	22-24	23-25	1		5	
5A (2nd)	6 (2nd)	Master's programmes	Bachelor's degree	Master's degree	24-26	24+	2-3		6-11	
6	7	Doctorate programmes	Master's degree	Doctorate	24+	27+	1-3		9-16	

BEST COPY AVAILABLE

ANNEX A5*b*

MALAYSIA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-school			5	6	1			
1	1	Primary (Year 1-6)	Schooling age	Primary school achievement test	6	12	6			
2	2	Remove class	6 years of primary education		12	13	1			Pupils from the national-type Chinese and Tamil primary school spend a year in the Remove class before the transition to secondary school to become proficient in Bahasa Melayu.
2	2	Lower secondary (Forms 1-3)	6 years of primary education	Lower secondary assessment	12	15	3	9		Students who do not pass the lower certificate of education examination enter the labour market.
3C, Type 1 (does not count as ISCED 3 completion)	3	Upper secondary (Forms 4-5) – academic stream	Lower secondary assessment	Malaysian Certificate of education	15	17	2	11		Based on performance in the lower certificate of education examination, students are placed in the academic stream or technical and vocational schools.
3C, Type 3 (does not count as ISCED 3 completion)	3	Upper secondary (Forms 4-5) – technical and vocational schools	Lower secondary assessment	Malaysian Certificate of education	15	17	2	11		
3A	3 (2nd)	Pre-university (6th form GCE A level)	Malaysian Certificate of education	Higher school certificate of examination/GCE programmes	17	19	2	13		Two-year pre-university course that prepares students for the Higher School Certificate Examination.
3A	3 (2nd)	Pre-university (matriculation)	Malaysian Certificate of education		17	19	2	13		
4		Teacher training (1-year programmes)	Malaysian Certificate of education	Diploma in teaching or Diploma in education	17	18	1			Training of pre-primary and primary teachers.
5B	5 (except graduates of 1 year)	Higher education (teacher training – 2-3 year programmes)	Malaysian Certificate of education	Diploma in teaching or Diploma in education	18	20-21	2-3		2-3	Training of pre-primary and primary teachers.
5B	5	Higher education (polytechnics)	Malaysian Certificate of education	Certificate/ Diploma in various engineering fields	18	20-22	2-4		2-4	
5A (1st, short)	6 (1st, short)	Higher education (3-year programmes)	Higher school certificate of examination/GCE	Bachelor's degree	20	23	3		3	
5A (1st, long)	6 (1st, long)	Higher education (5-6 year programmes)	Higher school certificate of examination/GCE	Bachelor's degree (medicine, dentistry, and veterinary science)	20	25-26	5-6		5-6	
5A (2nd)	6 (2nd)	Master's programmes	Bachelor's degree	Master's degree	23	24-25	1-2		5-6	
6	7	Doctorate programmes	Master's degree	Doctor of Philosophy (Ph. D.)	24-25	26-27	2		7-8	Requires submission of a thesis.
6 (2nd)		Higher doctorate programmes	Master's degree or Doctor of Philosophy (Ph. D.)	Higher doctor's degree (D.Lit., D.Sc., LL.D.)	24 upwards	29 upwards	5-7		1-15	Can be awarded in literature, law, and science.

PARAGUAY

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Initial Education			3	6	3			Includes the stage of kindergarten of infants that assists children of 3 to 4 years and the pre-school stage that assists children of 5 years.
1	1	Basic school education, 1st and 2nd cycles			6	12	6	6		Obligatory
2, Type 1	2	Basic school education, 3rd cycles		Basic school education-leaving certificate	12	15	3	9		Obligatory
2, Type 3	2	Basic school education, technical cycles		Basic cycle technical-leaving certificate	12	15	3	9		Obligatory
3A, Type 1	3	Humanistic, scientist baccalaureate	Basic school education-leaving certificate	Humanistic/scientist baccalaureate title	15	18	3	12		
3C, Type 3	3	Technical baccalaureate	Aptitude tests + entrance examination	Technical baccalaureate title	15	18	3			
5B	5	Non-university tertiary level; Post-secondary education	Aptitude tests + entrance examination	Professor of initial education, basic scholar, education medium, or title of superior technician	18	21-22	3-4		3-4	Qualifications awarded are according to duration of the programme.
5A	6	University	Secondary school leaving certificate and an entrance examination or probationary course	Licentiate	18	22-24	4-6		4-6	Includes courses of medicine, dentistry, economics, etc.
6	7	Post-graduate	Degree title	Doctorado or Master's degree	22-24	24-28	2-4		6-10	Requires submission of a thesis.

ANNEX A56

PHILIPPINES

ISCED-97 level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary			3	6	3			
1	1	Elementary education, 1st and 2nd cycles		Elementary school-leaving certificate	6	12	6	6		
2	First 3 years of secondary education	Secondary – General (First 3 years of secondary education)			12	15	3	9		
3	4th year of secondary education	Secondary – General (4th years of secondary education)		Secondary school-leaving certificate	15	16	1	10		
4A	4	Post-secondary technical vocational programmes	Secondary school-leaving certificate	Certificate of proficiency	16	18 or 19	2-3	12-13		
4B	4	Post-secondary technical vocational programmes	Secondary school-leaving certificate	Certificate of proficiency	16	17	<2	11-12		
5A (1st, short)	5	Tertiary programmes	Secondary school-leaving certificate	Associate of Arts	16	18	2		2	Agricultural technology, secretarial studies, business studies, fine arts, computer studies, midwifery, marine transportation, etc.
5A (1st, medium)	5	Tertiary programmes	Secondary school-leaving certificate	Bachelor's degree (most subjects)	16	20	4		4	Many tertiary institutions require students to pass an entrance examination. Graduates of teacher-training institutions are required to take the Licensure Examination for Teachers.
5A (1st, long)	5	Tertiary programmes	Secondary school-leaving certificate	Bachelor's degree (engineering, dentistry)	16	21	5		5	Graduates are required to pass a licensure examination to be able to practise their professions.
5A (2nd course)	5	Tertiary programmes (2nd) stage professional	Bachelor's degree	Professional (law, medicine)	20	24	4		8	Graduates are required to pass a licensure examination to be able to practise their professions.
5A (2nd course)	5	Tertiary programmes (2nd) stage	Bachelor's degree	Master's degree	20	22	2		6	Most fields require defence of a thesis
6	6	Doctorate programmes	Master's degree	Doctorate degree	22	24 or 25	2 or 3		8-9	Requires defence of a thesis/ dissertation.

RUSSIAN FEDERATION

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Kindergarten			3	6	3			
1	1	Primary			6-7	10	4	4		
2	2	Basic general education		Certificate 1	10	15	5	9		Lower secondary education is compulsory for all pupils (level 2A), awarded by certificate 1, duration 9 years (without pre-primary education).
3A	3	Secondary general		Attestat	15	17	2	11		Upper level of secondary education is feasible in gymnasium, lyceum, secondary school, awarded by attestat or maturity (zrelost).
3C	3	Secondary vocational	Entrance examination	Certificate 2, Diploma 1	15	17-18	2-3	11-12		Vocational lower secondary education is feasible in specialized school (uchilische), awarded by: (a) 2 years' duration – certificate 2 with qualification of worker; (b) 3 years' duration – diploma 1, confirmed upper level education and worker's qualification.
4C	3	Secondary vocational	Entrance examination, Attestat	Certificate 2	17	18-19	1-2	12-13		Vocational education based on upper secondary education, duration 1 year; awarded by certificate 2 with worker's qualification (ISCED level 4C).
2A + 5B	3 + 5	Secondary special programme (technicum)	Entrance examination, Certificate 1	Specialist's diploma 1	15	19	4	15	2	Secondary special education in combination levels 2A and 5B, duration 4 years, awarded specialist's diploma 1, confirmed upper secondary level and first stage higher education, technician training, teacher training, and so on.
5B	5	Post-secondary special programme	Entrance examination, Attestat	Specialist's diploma 1	17	20	3		3	Post-secondary special programme based on upper secondary level (11 years), duration 3 years, feasible in colleges and technicums, awarded by specialist's diploma 1.
5A (short)	5	Incomplete higher education	Attestat; Specialist's diploma 1	Certificate of incomplete higher education	17	19	2		2	Incomplete higher education – first stage of higher education, duration 2 years, awarded by diploma to students who discontinue their studies.
5A	5	Basic higher education	Attestat; Entrance examination	Bachelor's degree	17	21	4		4	Basic higher education, duration 4 years in university or institution, awarded by bachelor's diploma.
5A	5	Professional higher education	Attestat; Entrance examination	Specialist's diploma 2	17	22-24	5-7		5-7	Professional higher education, duration from 5 (in economics, humanities) to 7 years (in medicine), 5-6 years in engineering, awarded by specialist's diploma 2.
5A	5	Professional higher education	Specialist's diploma	Specialist extended education qualification	23-24	24-25	1		6-8	Further (upgraded) education – for specialists who wish to receive second speciality or improve their knowledge, duration 1 year, feasible in special department of university or institution.
5A	6	Magistratura	Bachelor's degree	Master's degree	21	23	2		6	Educational programme with research elements in certain fields of science, graduates may work as a scientist, teacher in secondary school and at tersary level.
5A	6	Internatura	Bachelor's degree in Medicine	Internatura	24	25	1		8	Educational programme for graduates of university with higher medical education to improve their practical experience; awarded certificate for professional activity in medicine.
6	7	Aspiratura	Master's degree	Kandidat nauk	22-24	25-27	3		8-9	Requires public defence of an independently elaborated thesis and by final examinations.
6		Doktorantura	Kandidat nauk	Doktor nauk	25-27	27-30	2-3		10-12	Requires defence of thesis offering new solutions to a major scientific/academic problem which is of substantial importance to the field or discipline.

ANNEX A5b

SRI LANKA

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0		Pre-school			4	5	1			Not provided by national government, but by some local governments and private organizations on fee-paying basis. About 50 per cent of Sri Lankan children attend for some period of time.
1		Primary			5	10	5	5		
2		Junior secondary	Completion of primary	Completion of junior secondary	10	14	4	9		
3A		Senior secondary (Ordinary level)	Completion of junior secondary	General certificate of education (Ordinary level)	14	17	3	12		
3A		Senior secondary (Advanced level)	General certificate of education (Ordinary level)	General certificate of education (Advanced level)	17	19	2	14		
3B		Technical/ vocational		Certificates	14	16	2			
5B		Collegiate	General certificate of education (Ordinary level)	Diplomas and certificates	17	18-21	1-4		1-4	There are 24 technical colleges and 5 affiliated units operated by Ministry of Education offering wide variety of professional, academic, and craft courses.
5A (short)		Collegiate	General certificate of education (Ordinary level)	Diplomas and certificates; entrance to university	17	19	2		2	There are 24 technical colleges and 5 affiliated units operated by Ministry of Education offering wide variety of professional, academic, and craft courses. Primary school teachers are trained at this level.
5A (short and long)		University (1st stage)	General certificate of education (Advanced level)	Bachelor's degree	19	22-25	3-6		3-6	There are 9 universities and 4 other institutions of higher education. Secondary school teachers are trained at this level.
5A		University (2nd stage)	Bachelor's degree	Master's degree	22-25	23-27	1-2		6-10	There are 5 post-graduate institutes of higher education, all attached to universities.
6		University (3rd stage)	Master's degree	Doctor's degree	23-27	25 onwards	2+		8 and above	There are 5 post-graduate institutes of higher education, all attached to universities.

THAILAND

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-primary			3	6	3			[illegible]
1	1	Primary			6	12	6			[illegible]
2	2	Lower secondary	Graduation from primary school (Grade 6)	Lower secondary education certificate	12	15	3	9		[illegible]
3A	3	Upper secondary – General	Graduation from lower secondary school (Grade 9)	Upper secondary education certificate	15	18	3	12		[illegible]
3B		Upper secondary – Vocational	Graduation from lower secondary school (Grade 9)	Vocational education certificate	15	18	3	12		[illegible]
5B		Diploma programmes	Vocational education certificate	Diploma in vocational education	18	20	2		2	[illegible]
5B		Technical degree programmes	Upper secondary education certificate	Bachelor's degree	18	22	4		4	[illegible]
5A (1st, short)	6 (1st, short)	University-level education	Upper secondary education certificate	Bachelor's degree	18	22	4		4	
5A (1st, long)	6 (1st, long)	University-level education	Upper secondary education certificate	Bachelor's degree	18	23-24	5-6		5-6	Most professional qualifications are earned here, including architecture, painting, sculpture, graphic arts and pharmacy (5 years), medicine, dentistry and veterinary science (6 years).
5 (2nd)	6 (2nd)	Master's programmes	Bachelor's degree	Master's degree	23	25-26	2-3		6-7	Candidates are usually required to submit a research project and a thesis.
6	7	Doctorate programmes	Master's degree	Doctor's degree (Ph. D.)	25-26	28-30	3-4		9-10	

URUGUAY

ISCED-97 Level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0		Initial education			5	6	1			
1		Primary			6	12	6	6		
2A		Basic cycle (básico)			12	15	3	9		
3A and 3B		Bachillerato Diversificado (Upper secondary general)		Bachillerato	15	18	3	12		The Bachillerato gives the right to enrol in the Faculty which corresponds to the option chosen in the second year of diversified education (humanities, science or biology).
3B and 3C		Bachillerato Técnico (Upper secondary technical)		Bachillerato	15	18	3	12		The Bachillerato gives the right to enrol in the Faculty which corresponds to the option chosen (agriculture, architecture, engineering, administration or business & commerce).
5B		Professional qualification	Bachillerato	Professional qualification	18	20-22	2-4		2-4	Programmes to train librarians, midwives, public administrators and business administrators.
5B		Teacher training (primary schools)	Bachillerato	Maestro de educacion primaria	18	21	3		3	Qualification which entitles the holder to teach in a primary school.
5B		Teacher training (secondary schools)	Bachillerato	Profesor; Maestro Técnico	18	22	4		4	Qualification which entitles the holder to teach in a secondary or technical school.
5A (1st, short and long)		Licenciatura programmes	Bachillerato	Licenciatura	18	22-23	4-5		4-5	4-year programmes to 5A short, 5-year programmes to 5A long
5A (1st, short and long)		Other professional degree programmes	Bachillerato	Ingeniero/ arquitecto/ quimico farmaceutico	18	22-24	4-6		4-6	4-year programmes to 5A short, 5- and 6-year programmes to 5A long
5A (long)		Medicine and dentistry programmes	Bachillerato	Doctor	18	23-25	5-7		5-7	Dentistry (5 years), Law (6 years), Medicine (7 years).
6		Doctorate programmes	Licenciatura/ Ingeniero	Doctorado	22-24	24-26	1-2		6-8	Requires submission of a thesis.

ZIMBABWE

ISCED-97 level for the WEI Data Collection	ISCWEI Level – Used for WEI Pilot data collection (1997)	National title of programme	Entrance requirements	Qualifications awarded	Typical starting age	Typical completion age	Theoretical duration	Theoretical cumulative duration – primary/secondary levels	Theoretical cumulative duration – tertiary level	Notes
0	0	Pre-school			3	6				
1	1	Primary school		Primary school achievement test (Grade 7 certificate)	6	13	7	7		7 years primary schooling.
2A		Junior and Senior secondary	7 years of primary education	Ordinary level certificate	13	17	4	11		4 years secondary schooling.
2B		Vocational technical education (secondary level)	7 years of primary education	Ordinary level certificate + technical course	13	17	4	11		4 years secondary schooling with technical course included.
2C		National Foundation programmes	7 years of primary education	Technical certificate	13	15	2	9		Minimum entry requirement is 7 years of primary education.
3A		Lower and upper 6th form	Good ordinary level certificate	Advanced level certificate	17	19	2	13		Minimum entry requirement is a good ordinary level result.
3B		Commercial and teachers' course	5 ordinary level credits	Certificates and diplomas	17	20	3	14		Minimum entry requirement is 5 ordinary level subjects.
3C		Apprenticeship programmes	5 ordinary level credits of Grade C or more	Certificates and diplomas	17	20	3	14		Course for industrial technical workers.
5B		Technical degree programmes	Advanced level passes in at least 2 subjects	Bachelor's degree	19	22	3	16	3	Technical degree programmes.
5A		Academic degree programmes	Advanced level passes in at least 2 subjects	Bachelor's degree	19	22	3	16	3	Academic degree programmes.
5A		Master's degree dentistry programmes	Bachelor's degree	Master's degree	22	23	1		4	
6		Doctorate degree programmes	Master's degree	Doctorate degree	23	26	3		7	Requires submission of a thesis.

Acknowledgements

This publication results from a collective effort by countries participating in the World Education Indicators programme and the Statistics and Indicators Division of the OECD Directorate for Education, Employment, Labour and Social Affairs including Michael Bruneforth, David Nohara, Richard Phelps, and Andreas Schleicher who was principally responsible. Alison Kennedy and Douglas Lynd from the UNESCO Institute for Statistics also contributed to the preparation and review of the report.

The following lists the names of the country representatives – policy-advisors, researchers and experts – who have taken part in the preparatory work leading to this publication:

Mr. Felix ABDALA (Argentina),
Mr. Ramon C. BACANI (Philippines),
Mr. Ade CAHYANA (Indonesia),
Mr. Ivan CASTRO de ALMEIDA (Brazil),
Mr. Farai CHOGA (Zimbabwe),
Ms. Jehad Jamil Abu EL-SHAAR (Jordan),
Mr. João Batista GOMES NETO (Brazil),
Ms. Hilda GONZALEA GARCETE (Paraguay),
Ms. Maria Helena GUIMARAES CASTRO (Brazil),
Ms. Vivian HEYL CHIAPPINI (Chile),
Ms. LIN Zhi-Hua (China),
Mr. MENG Hong Wei (China),
Ms. Khalijah MOHAMMAD (Malaysia),
Ms. Penchan NARKORNIN (Thailand)
Ms. Irene Beatriz OIBERMAN (Argentina),
Ms. Mara PEREZ TORRANO (Uruguay),
Mr. Sumret PRASERTSOOK (Thailand),
Mr. Mohamed Abdul Salam RAGHEB (Egypt),
Mr. Alexander SAVELYEV (Russian Federation),
Mr. Abhimanyu SINGH (India),
Mr. R. S. THAKUR (India),
Mr. Senanayake UPASENA (Sri Lanka),
Mr. Azmi ZAKARIA(Malaysia)

The preparation of this publication was facilitated by a grant from the World Bank. The work was also aided by the financial and material support from the governments of Australia, Germany, the Netherlands and the United States.

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(96 2000 02 1 P) ISBN 92-64-17183-5 – No. 51091 2000

EDUCATION AND SKILLS

Investing in Education

ANALYSIS OF THE 1999 WORLD EDUCATION INDICATORS

The 1990s have witnessed growing demand for learning throughout the world. Compelling incentives for individuals, economies and societies to raise education levels have driven increased participation in a widening range of learning activities by people of all ages, from the earliest years through later adulthood. Educational progress has, however, been uneven both across and within countries.

This volume sheds light on the comparative performance of education systems by means of analyses that extend to the financial and human resources invested in education, how education and learning systems operate and evolve, and to the returns to education investment. The data presented allow countries to see themselves in the light of other countries' performance and to assess whether variations in educational experiences are unique or if they mirror differences observed elsewhere.

COUNTRIES COVERED

Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Jordan, Malaysia, Paraguay, the Philippines, Uruguay, the Russian Federation, Sri Lanka, Thailand, Zimbabwe and OECD countries

www.oecd.org

OECD

WORLD BANK

UNESCO

ISBN 92-64-17183-5
96 2000 02 1 P
FF 190

187